



# God is great, God is good: Teaching god concepts in Turkish Islamic sermons

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## Abstract

Cognitive scientists have argued that concepts such as gods and ghosts are found the world over because they violate a small number of ontological expectations, making them distinct, memorable, and highly transmissible. These concepts are known as minimally counterintuitive (MCI) and are theorized to be essential components of religion. Previous studies have explored MCI concepts in Christianity, Hinduism, Ancient Rome, and a variety of imaginary alien civilizations, but none have addressed the world's largest religion, Islam. This study applies research on MCI concepts, together with work on theological correctness, to a dataset of 295 Islamic sermons from 2001 to 2006 prepared by the Directorate of Religious Affairs, a government agency in Turkey charged with managing the country's mosques and religious education. Using content analysis, this paper tests whether counterintuitive god concepts are as sparse as MCI theory would predict (they are) and whether god concepts vary as expected in contexts of prayer (they do). Comparison of god concepts in sermons written before and after the arrival of new leadership at the Directorate shows that institutional change has altered religious discourse, decreasing the presence of intuitive but not counterintuitive concepts.

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## 1. Introduction

Scholars seeking to explain the emergence and transmission of religious concepts have increasingly turned to the study of human cognition (Henig, 2007; Boyer, 2000; Wuthnow, 2007). Their research shows that long-standing religious concepts have not arisen randomly but instead conform to mental and contextual constraints (Whitehouse, 2002, 2004). While a growing number of studies on cognition and religion offer compelling explanations of how mental tools shape belief in supernatural agents, there are few accounts linking these discoveries with the role that religious elites and institutions play in teaching religion. For instance, scholars

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have drawn on theories of human cognition to explain why people do not act in accordance with their own professed religious beliefs (Sloan, 2004), but little is known about the role of cognition in efforts to instill theological beliefs in the first place.

I examine weekly Islamic sermons to test whether discourse produced by religious elites conform to expectations derived from the theory of minimally counterintuitive concepts. I focus on representations of God (Allah) because God is the central agent in Islamic cosmology and because the cognition literature has focused on similar special agents. My results affirm previous findings from the field of cognition and religion, showing that God is minimally counterintuitive and is not described with more than two counterintuitive attributes per transmission. I also explore the representation of god concepts in contexts of prayer and find, as expected, that the frequency of natural, human-like attributes describing God is higher in sermons mentioning prayer.

In the final section of this study I explore whether institutional changes at a government religious agency have any impact on the god concepts preached in the agency's sermons. I find a statistically significant reduction in the frequency of natural and superhuman god concepts, but not counterintuitive concepts.

## 2. Background

### 2.1. *Minimally counterintuitive concepts and theological correctness*

One of the emerging cornerstones in the cognitive science of religion is the theory of minimally counterintuitive (MCI) concepts. MCI concepts are like other concepts in every way except that they violate an expectation of the ontological category, or domain, to which they belong. For example, a chair that eats people would be minimally counterintuitive because it displays a biological trait associated with living things. A chair that eats people, turns invisible when looked at, enjoys jazz, and lays eggs every third Friday, however, would not be MCI because our expectations for an inanimate solid object, let alone a piece of furniture, would be violated several times over.

According to researchers like Pascal Boyer and Justin Barrett, this is not a trivial distinction. If a religious concept is going to be transmitted successfully it needs to be remembered, and numerous studies show that people are more likely to recall objects that are MCI than those that are maximally counterintuitive, bizarre, or intuitive (Barrett and Nyhoff, 2001; Boyer, 2000; Lisdorf, 2004). While a people-eating chair is quite striking and likely to be talked about, it is harder to make inferences about maximally counterintuitive concepts like an invisible egg-laying chair. Concepts that are MCI have a competitive advantage because a domain violation provides a mnemonic bonus.

Theological concepts, on the other hand, are more complex, abstract, and difficult to maintain (e.g., the Christian Trinity). Learning these concepts usually requires formal religious instruction as well as regular reinforcement. Whitehouse (2004, p. 98) describes a recent study investigating how often religious concepts need to be repeated in order to be recalled at a future date. A class of undergraduates was taught the Four Noble Truths of Buddhism twice a week for 8 weeks and recall was tested after two repetitions (Time 1), eight repetitions (Time 2), and 6 weeks after the training ended (Time 3). Receiving two points for complete recall of a noble truth, one point for partial recall, and zero points for recalling nothing, the students' mean score at Time 1 was .91 out of 8, 3.2 at Time 2, and 1.18 at Time 3. Remembering just four principles after numerous repetitions proved to be a significant challenge.

There has also been considerable interest in how humans maintain two incongruous or contradictory versions of the same religious concepts, a phenomenon referred to as theological correctness (Barrett, 1998, 1999; Barrett and Keil, 1996; Sloan, 2004; Pyysiäinen, 2003). Studies in experimental psychology have shown that when people perform real-time conceptual activities they employ an unorthodox god concept that differs from the “theological” one they exhibit when asked to reflect on God’s attributes (Barrett and Keil, 1996; Barrett, 1998). In one study, Protestant university students described God as omnipresent and omnipotent on a survey, but their recall of events in a story revealed tacit beliefs about God that conformed to intuitive expectations about human actors (Barrett and Keil, 1996). For example, the students imagined God answering a request for help only after he finished what he was doing elsewhere, implying that God is fixed in time and space like any normal human actor.

Barrett’s work suggests that people typically revert to using less complex god concepts, but his research also reveals that abstract theological god concepts can be activated and inhibit intuitive assumptions under the right conditions. These conditions could be a number of things, including filling out a questionnaire on beliefs about God, listening to a sermon, reading a religious text, or participating in a Bible study group. In another study, Barrett (1998) alludes to how theological concepts might be sustained when he mentions “cognitive assistance” provided by thousands of years of theological discourse and religious practice. In other words, as theological concepts are hashed out over centuries, the burden of sustaining cognitively costly (Whitehouse, 2004) content may be lessened thanks to “enormous rehearsal and the assistance of written texts” (Barrett, 1998, p. 617).

Extending Barrett’s analysis, Pyysiäinen (2003) argues that theological concepts require conscious reflection in order to be adopted and employed, and reflection “necessitates external support from cultural institutions and the related external memory stores, to which some people usually have better access than others (literacy, education, etc.)” (2003, p. 154). In other words, Pyysiäinen is proposing a mechanism that links cognition with specific actors, institutions, and cultural resources. Institutions such as seminaries facilitate theological learning and produce religious elites for whom abstract concepts may be less burdensome in real-time processing. These elites have at their disposal years of religious training, thousands of printed and digital resources, and often a community of fellow scholars joined together in seminaries, madrasas, and religious agencies. Hence, religious elites are the guardians of theologically correct religion or, more precisely, the purveyors of religious concepts that challenge intuitive human cognition.<sup>1</sup> Whether or not their religious teachings bear the marks of cognitive principles is what will be tested here.

## 2.2. Turkish Islamic sermons

A committee of experts at Turkey’s Directorate of Religious Affairs, a large government agency, produces the weekly sermons that are read nationwide during Friday prayers, with topics ranging from personal hygiene to human rights. The sermon (Turkish: *hutbe*) is an essential part of the Friday prayer. Although ritual prayer is normally composed of four cycles of prostration and Koranic recitation, on Fridays the sermon takes the place of two cycles and listening is required for one’s Friday prayers to be considered valid. An Islamic sermon is divided into two sections, the first of which is known as the “sermon of exhortation” and contains a message on a

<sup>1</sup> It is important to remember that theological correctness does not refer to differences between the religious beliefs of elites and those of the masses—the concept refers exclusively to a dynamic *within* individuals.

theme pertaining to the community. After completing the first section, the imam prays for forgiveness and then sits briefly, recreating the pause between the cycles of prayer that the sermon replaces. As he begins the second, much shorter part of the sermon, he praises God and asks blessings on Muhammad and his family. Following this, the imam typically prays for the community, the nation, and Muslims around the world. In short, the sermon is not only a constituent of Friday prayer but is itself steeped in praise and supplication.

The Directorate of Religious Affairs, known as the Diyanet, has explicitly designed its sermons to teach orthodox beliefs and practices to Turkish Muslims. This objective was repeated often in interviews I conducted with Diyanet officials and is outlined in Turkish law, which states the purpose of the Diyanet is “to carry out affairs related to the beliefs, prayers and moral foundations of Islam, to enlighten society about religion and to manage places of prayer” (Gözaydın, 2006). That the sermons were produced by religious elites makes them advantageous for studying cognitive scientists’ claims, particularly those of Pyysiäinen (2003)<sup>2</sup>.

### 3. Hypotheses

#### 3.1. *No more than two counterintuitive traits per transmission*

The theory of MCI concepts predicts that God will be described in any one transmission using a maximum of one or two counterintuitive traits (Barrett, 2004; Boyer, 2000; Boyer and Ramble, 2001). The cognitive burden of contemplating a concept with more counterintuitive attributes than that makes it very unlikely for such a concept to be remembered, let alone wielded in real-time cognitive tasks.

**Hypothesis 1.** Each sermon should contain no more than two counterintuitive attributes of God. (Repetition of the same attribute in a given sermon is assumed not to require any additional cognitive processing and therefore does not count toward the limit.)

#### 3.2. *Fewer counterintuitive concepts in contexts of prayer*

Previous work on Christian petitionary prayer suggests that people conceive of God as a distant agent, which explains why they are more likely to ask God for psychological rather than physical help (Barrett, 2001). This finding reveals a tendency to conceive of and interact with God not in the theologically correct way of recalling God’s omnipresence or omnipotence, but in a way that conforms to schemata for normal human interaction (e.g., a friend living abroad can cheer you up over the phone but cannot give you a hug). In other words, our minds transfer assumptions learned from communicating with human agents to the act of communicating with the divine. Existing studies have been limited by small research samples and a focus on Christianity, but Islamic sermons provide an opportunity to extend this research by examining whether religious instruction displays a similar link between prayer and human-like portrayals of God. Based on Barrett’s research we would expect to find fewer counterintuitive god attributes and more natural god attributes mentioned in sermons concerning prayer.

<sup>2</sup> Most of the sermon writers attended vocational high schools for imams and graduated from theology departments in Turkish universities, later receiving graduate degrees in Turkey and sometimes the US or UK. They are also civil servants, having passed the same standardized test that any Turkish citizen must pass in order to work for the government.

**Hypothesis 2a.** Sermons that mention prayer should include fewer counterintuitive god attributes than those that do not.

**Hypothesis 2b.** Sermons that mention prayer should include more natural (i.e., domain-consistent) god attributes than those that do not.

#### 4. Exploring the impact of social change on god concepts

Following sociologists who have demonstrated interaction between social context and cognition (Cerulo, 2002; DiMaggio, 1997), I explore whether bureaucratic changes at the Diyanet are associated with any changes in the transmission of god concepts in the sermons.

Interviews with a wide range of Diyanet employees have established the existence of a new professionalism at the Diyanet, a conscious attempt to increase the educational credentials of its staff. The person credited with this development is the current president of the Diyanet, Dr. Ali Bardakoğlu, who was appointed in May 2003 shortly after the Justice and Development Party came to power in Turkey's national elections. Under Bardakoğlu there has been a boom in staff development conferences and programs to send imams abroad for language training and international experience; young academics pursuing advanced degrees in theology have been supported financially through employment at the Diyanet. All these efforts could have an impact on the content of weekly sermons because a more knowledgeable cadre of sermon writers operating in an increasingly academic milieu might produce more theologically advanced texts.

On the other hand, Bardakoğlu has also spoken about the important role sermons can play informing the public about current events:

We prepare these speeches according to Turkey's circumstances, issues, and bleeding wounds. We do not take any external suggestions into consideration. Yet, as individuals who live in this country, national problems are a concern to us. . . If our country is becoming a desert, if the forests are being destroyed, we can't let people pass time with ablutions and prayer, we have to tell them that these things are wrong (quoted in Barıştiran, 2004).

If Bardakoğlu sees the sermons as an outlet for addressing a wider variety of social issues than his predecessor did, there might be less room for God's attributes. But because sermons often correspond to events on religious and national calendars, and because sermon language is so formal, it is unclear whether Bardakoğlu's few years as president will have had an impact on Diyanet discourse.

#### 5. Data and methods

##### 5.1. Sermons of the Directorate of Religious Affairs

I analyze texts of 295 Islamic sermons written by officials at the Turkish Directorate of Religious Affairs and delivered in mosques throughout Turkey between January 2001 and May 2006. The sermons are brief, averaging 375 words, and typically last less than ten minutes when read during Friday prayers. All sermons were analyzed in the original Turkish; translations presented below are my own.

These particular sermons were chosen for two reasons. First, compared with Diyanet sermons written under earlier regimes, these are notable for the collective effort involved in their production, a fact that reduces concern that author idiosyncrasies affected the representation of

God. The sermons were written during a period when the Diyanet prepared sermons for the entire country from its headquarters in Ankara. A committee of experts would meet every month to discuss upcoming topics and edit each other's sermons; even when written by a single author, a sermon would be vetted, copyedited, and accepted by the committee before being approved by a senior Diyanet official. A sermon written under this system was rarely the product of just one individual.

The second reason for using these sermons was entirely practical: they were publicly available on the Diyanet's website at the time of data collection. There is now a "moving wall" so that sermons from only the last five years are found on the website (currently 2003 through 2008), but all Diyanet sermons examined in this study are preserved in archives of the *Diyanet Monthly Journal* (*Diyanet Aylık Dergi*), a magazine distributed to Turkish imams.

### 5.2. Coding procedures

Sermons were coded using TAMS Analyzer, a Macintosh application similar to ATLAS.ti. Codes were applied at the sentence level to all text that appeared in the body of the sermons, including scripture. The decision to code scripture was made for two reasons. First, each excerpt from the Koran or Hadith represents a choice of text from among thousands of possibilities. Second, first-hand observation of sermon editing meetings in Ankara revealed that writers will consult up to three different translations of the Koran and Hadith to craft the desired Turkish wording of a passage. Indeed, there are cases where the same verse of scripture includes slightly different attributes in different sermons.

Attribute codes were assigned when a sentence contained a declarative statement about God or implied an attribute by describing an action performed by God (e.g., the sentence "God created the world" was coded CREATOR). Actions were coded as attributes only in cases where the action exceeded normal human capability or corresponded to a trait mentioned elsewhere in a declarative sentence. This rule prevented me from having to decide arbitrarily whether prosaic sentences like "God stated..." or "God considers..." revealed character traits or not.

All references to prayer and examples of prayer from the Koran and Hadith were coded in order to distinguish sermons having to do with prayer; sermons containing at least one prayer code were labeled "prayer-related." Using just one reference to prayer as the basis for this category has the disadvantage of combining sermons with a brief benedictory prayer and those whose entire topic is prayer, but none of the results changed significantly when the criteria for labeling a sermon "prayer-related" was increased to two or three references.

### 5.3. Measuring counterintuitiveness

I measured counterintuitiveness using a scheme created by Barrett (in press). Building on the work of Boyer (1994, 2000), Barrett argues that objects can be classified according to their activation of intuitive "expectation sets" into five ontological categories: Spatial Entities, Solid Objects, Living Things, Animates, and Persons. For example, seeing a Solid Object like a chair activates intuitive expectations regarding physicality—without conscious reflection one already knows the chair cannot pass through walls, is subject to gravity, and will not move on its own. Agents such as humans, ghosts, and gods belong to the Person category because they activate expectations of mentality (e.g., having beliefs and desires, self-awareness, facility with language) and animacy (e.g., having goals, self-propelled motion).

The god found in Diyanet sermons belongs to the ontological category of Persons, but it would be a mistake to identify God's basic level category as "human." Doing so would result in so many violations of physical and biological expectations that our minds would press for a simpler, more intuitive construct. Barrett suggests "mind" as a preferable alternative, and that is what I used. This is especially reasonable in an Islamic context because Islam has never proclaimed a human incarnation of God.

After classifying God as a disembodied mind, I examined all references to God looking for attributes that would breach expectations associated with mentality and animacy. If God is able to know people's thoughts and future actions by means other than normal human communication, this would be a breach of mentality and therefore a counterintuitive trait. By the same token, if God is said to be immortal but has no body that can age and die, God's immortality is *not* counterintuitive because immortality is tied to expectations regarding physicality.

The coding scheme is very conservative in that it ignores counterintuitive *actions* attributed to God. Barrett maintains there is no empirical evidence showing that the ability to perform or bring about a counterintuitive act – such as moving an object without physically acting upon it – offers the same mnemonic advantage as an agent whose properties violate ontological expectations. This may be true, but a case can be made that an agent able to control someone's actions from afar is not so different from, and therefore just as mnemonically rich as, an agent who can know someone's thoughts from afar: the first agent's *ability* to perform the action indicates a counterintuitive property comparable to the other agent's omniscience. Although I consider the exclusion of counterintuitive actions to be a weakness of the scheme, I followed Barrett's procedures and compensated with additional coding described below.

Because the scheme ignores so many traits commonly associated with the divine, I coded a subset of attributes into a category labeled "superhuman." While these qualities and actions do not meet the scheme's criteria for counterintuitiveness, they are all well beyond normal human capability. They include: answering prayers, judging souls in the afterlife, existing without being born, lord of universe, creator, owner of everything, omnipotent, able to sanctify, sender of prophets and holy books, and provider (e.g., of rain). Attributes that were neither superhuman nor counterintuitive I labeled "natural," which means they are traits consistent with expectations for an agent with mentality and animacy (e.g., forgiving, helpful).

#### 5.4. Analysis

Hypotheses are tested by examining descriptive statistics and using two-tailed t-tests. I tabulated two types of scores for each sermon, "Total" and "Unique." To learn the total number of natural, superhuman, and counterintuitive attributes in a sermon I simply counted the corresponding codes in the text. To measure the number of *different* concepts in each sermon I summed dummy variables that measured the presence or absence of an attribute. Thus, if a sermon mentioned that God is forgiving in three different sentences, the sermon's Total score for the natural category would be three, whereas the Unique score would be one.

## 6. Findings

### 6.1. Overview of god concepts

Table 1 presents descriptive statistics for all attributes of God found in the sermons. There are far more natural god concepts in the sermons than either supernatural or counterintuitive

Table 1  
Descriptive statistics for god concepts in Diyanet sermons ( $N = 295$ )

Attribute	Mean	SD	Min	Max
<b>Natural</b>				
Supreme/mighty	1.736	1.577	0	8
One/unique/matchless	.186	.603	0	5
Exists	.102	.373	0	4
Forgiving	.061	.279	0	2
Merciful	.061	.267	0	2
Cautioning	.034	.199	0	2
Helpful	.031	.172	0	1
Generous	.024	.152	0	1
Strong	.024	.152	0	1
Praiseworthy	.017	.129	0	1
Rich	.014	.116	0	1
Forbearing	.010	.101	0	1
Gracious	.010	.101	0	1
Compassionate	.010	.101	0	1
Protective	.010	.101	0	1
Sacred	.007	.082	0	1
Childless	.007	.116	0	2
Close	.007	.082	0	1
Friend	.007	.082	0	1
Flawless	.007	.082	0	1
Deputy	.007	.082	0	1
Judge	.003	.058	0	1
Distant	.003	.058	0	1
Truthful	.003	.058	0	1
Victorious	.003	.058	0	1
Unchanging	.003	.058	0	1
Content	.003	.058	0	1
Clean	.003	.058	0	1
Sufficient	.003	.058	0	1
Beloved	.003	.058	0	1
<b>Superhuman</b>				
Creator	.380	.828	0	6
Provider (e.g., of rain, blessings)	.251	.627	0	5
Manages afterlife	.142	.396	0	2
Sends prophets and holy books	.129	.425	0	3
Omnipotent	.112	.471	0	5
Lord of universe	.031	.191	0	2
Owner of everything	.024	.173	0	2
Eternal	.020	.141	0	1
Answers prayers	.014	.116	0	1
Not born as child	.003	.058	0	1
Master of fate	.003	.058	0	1
<b>Counterintuitive</b>				
All-knowing	.115	.378	0	3
All-perceiving	.054	.281	0	3

concepts. Sixty-seven percent of the attributes are natural, 28% are superhuman, and 5% are counterintuitive. Thirty-one sermons contained no mention of God's attributes and two did not mention God at all.

The preponderance of natural attributes was caused by one recurring trait, SUPREME, which was used throughout the sermons as a modifier of "Allah" and accounts for 504 of 1107 attributes in the dataset. Because this is such a substantial portion of the attributes I reran all analyses excluding SUPREME but found no significant differences in results.

The most common attributes of God after SUPREME were CREATOR, found in 40% of the sermons, PROVIDER, found in 25% of the sermons, and UNIQUE, which occurred in 20% of the sermons. None of these attributes were surprising. God's oneness is a central tenet of Islam repeated during daily ritual prayers and in the statement of faith that is one of the five pillars of Islam; God's role as creator and provider are also essential to the religion.

None of the sermons focused exclusively on the nature of God. Nine out of ten sermons mentioned an attribute of God, but the questions "Who is God?" or "What is God like?" never merited a separate sermon. There were frequent statements about proof for God's existence being found in nature, so the authors did address the issue of God's existence, but these treatments seemed directed at non-believers or those who might attack the faith.

Analysis of correlations among attributes revealed relatively few variables clustering together. The strongest relationships occurred between CREATOR and OMNIPOTENT ( $r = .43$ ) and CREATOR and EXISTS ( $r = .41$ ). While the connection between CREATOR and OMNIPOTENT is self-explanatory, the link between CREATOR and EXISTS is revealed most clearly in passages that equate God creating something with proof of his existence. For example, a verse from the Koran is cited in multiple sermons saying, "His creating wives for you from among yourselves and putting between you affection and mercy is among the proofs of His existence."

The only attributes coded as counterintuitive were ALL-PERCEIVING and ALL-KNOWING. Sermon passages referred to God's knowledge of humanly unknowable things (e.g., when Judgment Day would occur) as well as minute details of the natural world (e.g., when individual leaves fall from trees), but God was described most frequently as knowing about human actions. God's ability to perceive everything was also tied to observing humans, so it is not surprising that these two variables often occurred together; there is a positive correlation of .36 between them.

Below are excerpts from sermons that illustrate several attributes of God. The first comes from a sermon about bribery delivered on March 9, 2001:

Almighty God [SUPREME/MIGHTY] knows all of our secret and overt actions [ALL-KNOWING]. . . [Bribery and corruption] are not found in a society made up of those who believe they are seen by God in every place [ALL-SEEING] and will one day be held accountable."

The following is an excerpt from a sermon on prayer delivered on January 28, 2005:

Is it possible to think of a greater happiness than receiving the mercy and love of one who hears us in the place where there is no one to hear us [ALL-PERCEIVING], who sees us in the place where there is no one to see us [ALL-PERCEIVING], who knows all of our intentions, thoughts, and secrets [ALL-KNOWING], who is able to help us in situations where no one can help us [HELPFUL], and who pays attention to us in times when no one else cares about us? Prayer is the appeal to be bound with this source of mercy and love.

Table 2  
Descriptive statistics for unique god attributes by attribute category ( $N = 295$ )

Variable	Mean	SD	Min	Max
Natural	1.42	1.20	0	6
Superhuman	.90	1.01	0	6
Counterintuitive	.14	.40	0	2

Finally, a sermon on gossip dated February 23, 2001 contains sentences mentioning God as the creator and as a sender of prophets and holy books:

Almighty God [SUPREME/MIGHTY] created humans as the most honorable of all created things, giving them intelligence and willpower [CREATOR]. Not confining Himself to this, He also sent prophets and books with divine messages as a guide [SENDS PROPHETS/BOOKS].

### 6.2. Only two counterintuitive traits—God is MCI

Table 2 shows descriptive statistics for the three categories of god concepts used in this study—natural, superhuman, and counterintuitive. As there are no sermons in the dataset containing more than two counterintuitive attributes, Hypothesis 1 is supported. In fact, 87.5% of the sample has no counterintuitive traits at all, 10.9% has one, and just 1.7% has two. This finding cannot be attributed to strict coding of counterintuitiveness alone; examining the occurrence of superhuman attributes we see that 93% of the sermons contain no more than two of these attributes and 41% of the sermons contain none. That nearly 9 out of 10 sermons contain no counterintuitive attributes is not very surprising because MCI theory states that counterintuitive concepts are cognitively optimal and easy to remember. Hence, they do not need to be reinforced.

One can ask how it would have been possible to have more than two counterintuitive attributes per sermon if no more than two were found in the whole dataset, but that question merely points to another finding that was not explicitly hypothesized: the god in Diyanet sermons is minimally counterintuitive. The sermons could have mentioned other counterintuitive traits commonly attributed to God like atemporality or non-spatiality, but they did not. Also, the counterintuitive attributes encountered in the sermons could have been breached, with God portrayed as all-perceiving or all-knowing only some of the time – this would have been a violation of the expectation that an object's properties are consistent over time – but they were not. In short, God is MCI.

### 6.3. More natural attributes in contexts of prayer

I expected to find more natural attributes in sermons containing prayer and that is indeed what the data reveal. As shown in Table 3, prayer-related sermons contain 1.65 natural attributes on average while non-prayer sermons contain 1.17, a difference significant at the .001 level.<sup>3</sup> Contrary to Hypothesis 2a, the frequency of counterintuitive attributes did not vary by prayer

<sup>3</sup> I also coded attributes of God mentioned within 300 text characters of each reference to prayer and performed the same analysis. This procedure yielded essentially identical results, which are available upon request.

Table 3  
Mean frequency of unique god attributes by presence of prayer

Variable	Non-prayer	Prayer
Natural	1.17***	1.65***
Superhuman	.79	1.01
Counterintuitive	.12	.16

Non-prayer ( $N = 146$ ), prayer ( $N = 149$ ).

\*\*\*  $p < .001$  (two-tailed test).

context, meaning that prayer-related sermons contain more natural attributes but do not contain any fewer supernatural or counterintuitive concepts. Indeed, one can easily find examples of natural and counterintuitive concepts occurring together in prayer-related sermons. For instance, God's mercy tends to be mentioned with a potent reminder of why one should feel compelled to seek forgiveness: God knows everything you have done. A sermon about sin delivered on September 20, 2002, states this clearly: "In order not to fall into a shameful situation on Judgment Day, we must never forget that Almighty God is watching us and knows all our inner states. We should immediately repent of our sins and take refuge in God's matchless grace and forgiveness."

#### 6.4. Impact of Bardakoğlu presidency on god concepts

Table 4 shows that the average number of natural and superhuman attributes per sermon has been lower during Bardakoğlu's tenure while the number of counterintuitive attributes has stayed the same. Before Bardakoğlu the average number of unique superhuman attributes per sermon was 1.12 while afterwards it was .72. Likewise, the average number of unique natural attributes before Bardakoğlu was 1.58 but dropped to 1.28 during his tenure. The pattern holds whether we consider the number of unique attributes per sermon or the total number of times attributes are mentioned in a sermon: fewer natural and superhuman attributes have been mentioned in the sermons after Bardakoğlu assumed leadership in May 2003.

There are several points to make about this finding. First, it is very unlikely that a mosque-goer would be able to detect the difference in god concept representation before and after Bardakoğlu because the difference is measurable in fractions of words. If you listened to several sermons

Table 4  
Mean frequency of god attributes in sermons written before and after Bardakoğlu became president of the Diyanet

Variable	Pre-Bardakoğlu	Post-Bardakoğlu
Natural		
Total	2.74*	2.12*
Unique	1.58*	1.28*
Superhuman		
Total	1.51**	.91**
Unique	1.12***	.72***
Counterintuitive		
Total	.17	.17
Unique	.14	.14

Pre-Bardakoğlu ( $N = 133$ ), post-Bardakoğlu ( $N = 162$ ).

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  (two-tailed test).

from 2001 and then several from 2004, you might hear one or two fewer attributes in the second set—a trivial difference.

On the other hand, it is remarkable that conceptual representation has changed in such a brief period and that it was detectable at all, especially given monotony in sermon topics and style. Several sermons in the dataset are repeated word for word, including two that were read before Bardakoğlu's presidency and then again during his tenure, and many sermon topics are repeated each year on religious and national holidays. Nevertheless, changes have taken place so that certain attributes of God – importantly *not* counterintuitive traits – are mentioned less often even as the average length of a sermon increased from 357 to 389 words. If these developments were to continue for several more years we might notice more striking changes.<sup>4</sup>

To be clear, the overall image of God in the Diyanet sermons has not changed. God is still presented as forgiving, powerful, unique, and so forth. What has changed is the frequency with which these traits appear and are repeated within a given sermon. Why is this significant? By and large, the natural and supernatural qualities listed in [Table 1](#) are not deeply theological or complex—apart from some of the supernatural concepts like sending prophets or judging souls in the afterlife, there are few that require much exposition. However, the concepts are not MCI either and should receive no mnemonic boost simply from association with the divine. Because these attributes are not cognitively optimal and require reinforcement to be remembered, any reduction in the repetition of a particular concept over time may contribute to a decline in its salience and longevity. There is currently no baseline to judge whether the Diyanet sermons are high or low in terms of concept reinforcement; more research similar to the study on recall of the Four Noble Truths by [Whitehouse \(2004\)](#) is clearly needed.

## 7. Discussion and conclusion

My findings lend support to MCI theory by showing that no sermon contained more than two counterintuitive attributes. Diyanet sermons are produced by Turkey's top theologians and could have been full of counterintuitive or challenging theological god concepts, but they were not. I have also demonstrated that contexts of prayer invoke more natural, human-like god concepts and that moderate bureaucratic change is sufficient to affect the representation of God in religious discourse.

This study has expanded on the work of several cognitive scientists by examining the connection between macro-level social phenomena and micro-level representations of special agents. For example, [Barrett's \(2001\)](#) research on prayer is complicated by this study's finding that God is described using more natural attributes in contexts of prayer. Barrett suggested there is no theological reason why believers would ask the Abrahamic God to help them as if he were a distant human agent, and therefore cognitive factors account for this finding, but evidence from the Diyanet sermons shows that Turkish Muslims are regularly exposed to discourse linking prayer with human-like attributes of God. The question then becomes, do god concepts employed during prayer include so many natural attributes because human cognition fundamentally shapes how God is evoked, or because religious instruction routinely associates prayer and God's human qualities? There is a "chicken or the egg" quality to this question that makes it difficult to answer,

<sup>4</sup> Unfortunately we are unable to further examine conceptual changes in centralized Diyanet sermons because of a policy change in 2006. From June 2006 onward sermon production was reassigned to mufti offices in the provinces and the central agency in Ankara assumed an oversight position.

but it suggests the need to more carefully explore how cognition and social phenomena influence each other.

This study also sheds light on the subject of time and the transmission of religious concepts. That there is a significant change in god concept representation in just five years' worth of data suggests that researchers need to pay attention to social change when examining texts where MCI and theological concepts are of concern. Barrett suggests that rehearsing cognitively complex concepts over centuries may lead them to be less burdensome, but this implies that the same concepts are being passed on from one generation to the next. The current study demonstrates that the transmission of religious concepts, even representations of God, may change in the short term.

The change in god concepts witnessed during Bardakoğlu's presidency is a convincing validation of Pyysiäinen's claim that institutions are important sites for exploring the impact of resources and religious elites on theological correctness. Turkey is not alone in its regulation of religion or employment of religious elites as civil servants. Twenty of 39 Muslim-majority countries around the world maintain Islam as their state religion and another five, like Turkey, essentially promote only Islam (Fox, 2006). The religious agencies attached to these governments can have vast influence over how religion is taught, often determining liturgical content, school curriculum, and, ultimately, wider understandings of religious concepts and identity. This is not limited to Muslim countries alone: in Israel the state rabbinate authorizes all marriages and divorces, and the definition of what it means to be a Jew appears to be changing as a result of political, social, and religious change (Gorenberg, 2008).

This study also has important implications for the issue of declining religious literacy that Smith and Denton (2005) have recently discussed in the American context. First of all, religious literacy can be described more specifically as knowledge of both cognitively optimal and abstract theological concepts. This underscores the fact that religious literacy requires formal religious training, a task carried out in many countries by centralized agencies alongside efforts by families and congregations to do the same. The amount of resources allocated to these agencies may determine the amount of theological instruction that civil servants or state-employed religious officials are able to provide. Thus, a fundamental shift in the education of religious elites or in political attitudes toward religion could have a significant impact on the longevity of certain religious concepts.

Future research should continue to explore the role of religious elites in shaping religious concepts and traditions, looking closer at how religious discourse has changed over even longer periods of time. For example, one would expect religious scholars under officially atheist regimes to have adapted their rhetoric to the demands of the regime. This could be studied using Christian and Islamic texts produced in the former Soviet republics of Central Asia both during and after Communism.

One line of questioning cognitive scientists should pursue is whether religious elites are better than ordinary people at wielding complex theological concepts in real time. Pyysiäinen raises the possibility, but I am unaware of any study testing this proposition. Scholars could investigate this using narrative recall experiments similar to Barrett's and, ideally, by collecting longitudinal data assessing the impact of theological training on aspiring religious elites. Documenting concrete evidence that theological instruction can impact real-time processing of religious concepts would be an important achievement in MCI research.

As the first exploration of MCI concepts in Islam, this article extends research on religious concepts by establishing that Allah, at least in the Turkish context, is MCI. In sermons that reach millions of worshipers every week, God is consistently described in ways that accord with previous research on cognition and the transmission of religious concepts. This study also shows

how MCI and theological concepts are situated in institutional settings that influence their occurrence in religious discourse. Cognitive scientists and other scholars should continue to explore these relationships, keeping in mind that the field has much to gain not only from laboratory experiments but from the examination of real-world data.

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