

# Ritual Syntax and Cognitive Theory

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## PRÉCIS

THE FOLLOWING ESSAY comprises four parts. The first explicates Frits Staal's 1979 claim that ritual is meaningless in such a way as to create a fuller and more coherent understanding than the majority of his critics have done. Most reactions to Staal's claim that ritual is meaningless have not only proven unproductive in terms of advancing the theory of ritual studies, but have obscured the value of his methodological contribution—the syntactic analysis of ritual activity. The second section discusses two interrelated issues: the application of the concept of syntax to ritual performance, and the utility of employing "tree diagrams"—familiar from the syntactic analysis of sentences—in developing a consistent technology for analyzing ritual activity. Briefly, the comparative study of a variety of languages has been critical to the origin of modern linguistics and to its ongoing development. In the same way comparative studies are also critical to the future development of a systematic understanding of ritual. The only way a meaningful comparative approach can be established is through the use of descriptive techniques that are systematic, detailed, and shared by researchers in the field. As a tool, the technique of tree diagramming implies certain limited, foundational theoretical assumptions, but does not necessarily entail any of the more explicit linguistic theories. The third section provides an example of the application of syntactic analysis by means of tree diagrams. The Vedic *agnihotra* ritual is analyzed and its structure discussed in relation to the possibility of it being the source of the Shingon *homa* (Jpn. *goma*). The fourth section outlines some of the ways in which a syntactic analysis of ritual can contribute to a cognitive theory of ritual. As a form of activity, ritual is organized in systematic ways. These systematic and generalizable organizations of activity reflect the ways in which humans generally organize activity, that is, there are cognitive correlates to the structures of organized activity.

## I. READING STAAL

In 1979 Frits Staal published an article that outlined a new approach to the study of ritual. That article was entitled “The Meaninglessness of Ritual.”<sup>1</sup> The provocative claim embodied in the essay’s title has proven highly controversial, generating more heat than light.<sup>2</sup>

Staal’s claim regarding the meaninglessness of ritual has at least five dimensions, making his claim much more complex than is usually recognized:

1. Rituals are not meaningful by reference, that is, symbolic meanings attributed to the elements of ritual—deities, implements, offerings, or actions—are ancillary to the primary quality of ritual, which is systematically organized activity.
2. A formalistic treatment of ritual activities, what Staal has called “ritual syntax,” may be heuristically beneficial to the study of ritual generally. As will be discussed below, it seems to this author to be the only effective technique for establishing a meaningful comparative study of ritual, one that can transcend the boundaries of different religious cultures.
3. While they are performing rituals, practitioners are not concerned with the symbolic meaning of the ritual elements, but rather with properly following the rules of the ritual performance. The qualification—while performing rituals—is an essential one often ignored by Staal’s critics.
4. Ritual elements are open to an almost unconstrained range of interpretations, that is, meaning is being attributed to—and not discovered in—the ritual.<sup>3</sup>
5. Ritual actions are more stable over time and across cultural boundaries than are their interpretations.

Most of the criticism of Staal, if not overtly hostile,<sup>4</sup> suffers from a failure to exercise the principle of charity. The term “charity” is not being used here in the moral sense—that of doing a kind act, such as giving something to someone more needy than ourselves. On this reading one might mistakenly conclude that Staal’s evidence, arguments, and conclusions need to be handled gently—like a package with a FRAGILE HANDLE WITH CARE label on it. The validity of Staal’s evidence, arguments, and conclusions does not depend on any kind of special handling on our part.

Charity is used here in the technical philosophic sense of the epistemological principle that one should assume that one’s interlocutor is attempting

to say something meaningful and worthwhile.<sup>5</sup> Such a reading is generally considered to provide a more coherent and useful understanding than any “uncharitable” reading. The purpose of doing so here is not to attempt to settle these issues—about which perhaps too much has already been written—but rather to provide enough clarity to allow the reader to see beyond what has become for so many critics the sole focus of attention when considering Staal’s contributions to the study of ritual. Therefore, instead of attempting here to treat all of the criticisms—and misunderstandings—of Staal’s ideas, we will attempt to create a more coherent and useful reading than that provided by many of his critics.<sup>6</sup>

There are three key steps to creating a more coherent reading of Staal’s essay. The first is to locate his comments in the context of his own research, that is, the Vedic Agnicayana ritual. The second is to take him at his word when he tells us what theory of ritual he is rejecting. The third is to amplify the claim that ritual is meaningless by examining what else Staal has said about meaning. In closing I feel that it is important to also discuss at least one way in which Staal has been misunderstood, because that misunderstanding has perhaps contributed to the failure to attend to the value of his proposal for a syntactic analysis of ritual.

#### I.A. Staal’s Research as Context for His Claim

Examined in isolation some of Staal’s assertions about ritual appear to be universal claims, that is claims that he intends to apply to all rituals, everywhere and at all times. It is more appropriate to locate Staal’s assertions in the context of his own research program, that is, into the much more limited context of the Agnicayana ritual with which he opens his 1979 essay. For example Staal states that “There are no symbolic meanings going through their [i.e., ritual performers’] minds when they are engaged in performing ritual.”<sup>7</sup> If we take this statement out of context and treat it as an unqualified universal claim, then a single example of a ritual practitioner who is familiar enough with performing the ritual to simultaneously also reflect on the symbolic references will of course disprove the universal claim. If instead of reading Staal as if he is making universal claims, we remember that he makes it clear that he is talking about the results of his own research, then the claim is not only more limited, but also more informative.<sup>8</sup>

At the same time, it is important to note that such contextualization does not mean that Staal’s comments are necessarily limited to the single performance of a single Vedic ritual in 1975. In my own training in the Shingon ritual tradition on Kōyasan, I was only concerned with performing the ritual properly. One might suggest that of course, as a trainee, proper performance would be my utmost concern. However, neither the ritual manual nor any of my direct oral instruction made any reference to

symbolic meanings. Of course, I “knew” that Agni was the Vedic god of the sacrificial fire, but reflection on that association did not constitute in any way an explicit part of the ritual performance.

### I.B. What Theory of Ritual Meaning Is Staal Rejecting?

Another aspect of creating a more charitable reading might be to take Staal at his word when he tells us what theory of ritual meaning he is arguing against—another aspect of appropriately contextualizing his claims. He tells us quite specifically, in the opening line of the first section of his essay that “A widespread but erroneous assumption about ritual is that it consists in symbolic activities which refer to something else.”<sup>9</sup> In other words, it is a referential theory of ritual meaning—the idea that ritual elements are meaningful because they have some intrinsic quality that refers in a fixed and invariant manner to some symbolic meaning—that he is arguing against.

Despite this apparently clear statement, some critics interpret him as failing to understand that all contemporary theories of ritual “assume that rituals must refer to something in order to have meaning,”<sup>10</sup> while others interpret Staal in such a fashion that Staal himself is presented as holding exactly such a referential theory of meaning.<sup>11</sup>

Such an assertion about the location of meaning is now for most philosophically informed scholars unproblematic. However, at the time of his writing the “Meaninglessness” essay, and still today in much of the discussion of ritual in religious studies, all of the attention is given to the symbolic referents of ritual elements. In other words, the ritual is “explained” by saying “this stands for that, and this other stands for that other.” One might consider, for example, a (non-theological) explanation of the Eucharist: the bread refers to Christ’s body, the wine refers to his blood, the meal refers to the Last Supper. Historically, since the nineteenth century one of the primary debates in the study of ritual was over its relation to myth: Did ritual simply enact myth? Was myth the text of ritual? Which was primary, and how then did the other derive from it?<sup>12</sup> Even in many contemporary cognitive theoretical approaches to ritual, one finds primacy placed on the symbolic referents of a ritual, rather than to the organization of the ritual activity, as explaining that ritual.<sup>13</sup>

### I.C. What Else Does Staal Say about Meaning?

Staal’s comments regarding meaning found in a later work serve to clarify his rejection of ritual—and so many other things—as having meaning. In his discussion of the “positivist critique of meaning” he points out that “most contemporary philosophers accept that meaning is not the kind

of commodity that can be assigned to everything; it is primarily a property of linguistic expressions."<sup>14</sup> This hardly accords with the representation of Staal as holding that meanings are "invariant and intrinsic to the [non-linguistic] phenomena under investigation."<sup>15</sup>

Staal's point here may also help to clarify one of his statements in the "Meaninglessness" article that is frequently cited by his critics, "In the development of our concepts and theories of ritual it is only a small step from 'changing meaning' to: 'no intrinsic meaning' and 'structural meaning,' and from there to: 'no meaning.'"<sup>16</sup> Ritual activity, such as the aspersion rite Staal is discussing when he makes this claim, has no "meaning" intrinsic to itself, nor does it have meaning because of its network of interconnections with other ritual activities—that is, no structural meaning—because ritual activities are not the kinds of things that can reasonably be considered to bear meaning.<sup>17</sup> Rather, the meaning that they have arise from our discussions of them, that is, our own treatment of them as lexical elements within our own discursive realms, elements to which meaning can be ascribed. Thus, when one critic says that "Rituals trade in signs that don't *possess* meaning so much as they *invite* meaning,"<sup>18</sup> I hear not a rejection of Staal, but simply a repetition of Staal's very point.

I find Staal's point here consistent with his methodological stance regarding the study of mysticism.<sup>19</sup> Including his earlier publication *Exploring Mysticism* (1975) can inform our understanding of his approach to the issue of ritual and meaning by placing that topic into the larger context of the development of Staal's own thinking. While it had been frequently claimed that one could not study mysticism rationally because it in itself transcended the rational, Staal asserted that "Trees and rocks cannot be meaningfully called rational, but it does not follow that they are therefore unintelligible or cannot be studied rationally."<sup>20</sup> We can read this to mean that although trees and rocks have no meaning in themselves—and that any meaning they have is the result of our attribution of meaning to them—they can be studied in a systematic and rational fashion. Like ritual, they have structures, components, and histories—which in an important sense we bring into being under those categories by the questions we ask.

#### I.D. Correcting One Misunderstanding

Finally, there is one misunderstanding of Staal that needs to be addressed directly. Staal is often read as if he were proposing a syntactic approach to the study of ritual as the only approach that should be taken. This exclusivist interpretation of Staal is usually implicit, rather than being made explicit. Such a straw-man who dismisses the value of other approaches to the study of ritual is then easily knocked down by drawing attention to aspects of ritual other than its syntax. Yet, nowhere that I am aware of does Staal make such an exclusivist claim. Staal is hardly unaware that we attribute mean-

ing to rituals, and that therefore an understanding of those meanings—as attributed to rituals rather than inherent in rituals—provides an important dimension of an understanding of why people perform rituals. Similarly, we can extend this to include both analytic perspectives we have inherited from the past, such as the maintenance of social organization, and more contemporary analyses, such as identity creation, economic consequences, and power relations. At the end of this paper we will make a suggestion as to what a comprehensive approach to the study of ritual might look like, one in which syntax plays a key but not exclusive role.

The debate over Staal's claim that ritual is meaningless seems to this author to have been not only largely fruitless, but to have obscured the potential value of Staal's methodological proposal—discussed in the second section of this essay—that the organization of ritual activities can be examined in the same way that the organization of the linguistic elements of a sentence is examined, that is, as a kind of syntax.

## II. WHAT IS RITUAL SYNTAX?

### II.A. The Heuristics of Analogies

While ritual has often been likened to language, this has usually been in the form of interpreting ritual as a kind of communication, for example, the idea that rituals are a means of conveying social values from one generation to the next. Staal, on the other hand, specifically focused on the way in which ritual activity is organized, likening this aspect of ritual to sentential structures, that is, to syntax.

More specifically, Staal's syntactic approach to ritual can be described in terms of the following argument by analogy concerning the relation between ritual and language:

1. Ritual and language are alike in both being instances of rule-bound behaviors.
2. The structure of language has been studied through the use of tree diagrams and the formulation of rules (that is, generalizations) describing the regularities of sentence structures.
3. Therefore, the structure of ritual can be studied through the use of tree diagrams and the formulation of rules describing the regularities of ritual structures.

This argument from analogy demonstrates Staal's assertion that ritual action can be analyzed in terms of its organizational structure, that is, in the same way that the organizational structure of sentences is analyzed:

syntactically. However, from our discussion above regarding Staal's views as to the location of meaning in the realm of language, it should be clear that ritual—as activity—is distinctly other than language. Whereas the elements of language bear meaning, ritual as activity can only have meaning attributed to it.

By making the analogous character of this approach clear we can avoid the mistake of simply asserting the identity of ritual and something else, such as drama. Being clear about the analogous nature of the similarity helps to restrain the inappropriate attribution of the characteristics of one term of the analogy (language) onto the other (ritual). Further, the value of any analogy is to be judged in terms of how useful it is. In other words it is only heuristic, and entails no broader claims about “what ritual *really* is.” Those approaches that simply identify ritual with something else often obscure the evaluative issue, that is, the question of the heuristic benefit of the analogy. In other words, all analogies between ritual and something else need to be considered in terms of the question, What does the analogy reveal? If the analogy reveals something that had not been visible previously, then the analogy is heuristically useful and worthy of further pursuit.

## II.B. Syntactic Analysis, Description, and Comparison

Thinking about ritual syntactically is useful in at least two ways. First, it encourages systematic and detailed analyses of rituals. Such analyses are still needed in the development of a comparative study of ritual. Second, it can reveal systematic patterns of ritual organization, which may in turn contribute to a more general cognitive understanding of how humans organize their activities.

Systematic and detailed analyses provide the corpus of descriptions necessary for comparative studies. The necessity of both steps—description and comparison—for the study of language is recognized by many linguists. For example, Robert Van Valin and Randy La Polla note that:

Developing serious explanatory theories of language is impossible in the absence of descriptions of the object of explanation. Understanding the cognitive basis of language is impossible in the absence of adequate cross-linguistic characterization of linguistic behavior.<sup>21</sup>

Comparative study of ritual is equally necessary. The majority of the studies of ritual seem to focus on the symbolic content of a ritual (or ritual corpus), producing contextualized studies that are organized around the unique characteristics of the ritual or ritual corpus. While such studies are essential to one kind of understanding of ritual, at the same time such approaches make it very difficult to compare ritual practices. For example,

one may be told that a medieval Shintō fire ritual represents offerings made to the *kami*, apparently distinct from the Shingon *homa* in which offerings are made to the buddhas, bodhisattvas, and guardian deities. However, a syntactic analysis of the structure of the two reveals a fundamental similarity obscured by the emphasis on the symbolism of each. As a consequence of focusing exclusively on symbolic or semantic values of rituals, the study of ritual remains a loosely connected field of at times only marginally overlapping discourses. In contrast to what is being discussed here as a *syntactic* approach, those approaches that focus on the symbolic contents of a ritual or ritual corpus might appropriately be referred to as *semantic*.

Any theory of ritual practice, whether cognitive or some other, will require a consistent analytic approach, one that allows for comparisons between different kinds of rituals and between rituals from different religious cultures and historical periods. A syntactic approach employing what are known as tree diagrams allows for such consistent and detailed analysis. While the syntactic approach does not constitute a comprehensive approach to the study of ritual, as Staal himself has noted, a syntactic analysis employing tree diagrams connects ritual activity with other kinds of rule-bound behaviors, thus allowing for the study of the relation between ritual, games, theatre, language, and any other kind of systematically structured activity.

## II.C. Borrowing Tools: Tree Diagrams

Tree diagrams, or more fully, “inverted tree diagrams,” start from a sentence as a whole (often represented as “S”) and then work down through phrases to smaller and smaller units of analysis. This analytic process depends upon certain assumptions about how language, or in terms of our current discussion ritual, is structured.<sup>22</sup> The basic theoretical claims of syntactic analysis are “(a) that words belong to syntactic categories; (b) that words are in linear order; and (c) that words group hierarchically into larger constituents that also belong to syntactic categories.”<sup>23</sup>

However, the utilization of this analytic tool from linguistics is not tantamount to the acceptance of any particular linguistic theory. Rather, the technique is an analytic one useful not only for descriptive purposes, but also for considering different theoretical explanations. While any such analytic technique, including tree diagrams, is based upon theoretical claims, such methods also provide a common technique for arguments between specific linguistic theories. The appropriation of this analytic method, therefore, does not necessarily entail any of the specific theories that it has been used to support. More specifically, the use of tree diagrams for systematically describing ritual syntax does not entail adopting the assumptions of a Chomskyan generative grammar.



## II.D. What a Syntactic Method Is Not: The Semantics of Ritual

One of the long-standing fundamental divisions in the study of language has been the distinction between syntax and semantics. Syntax is understood as the examination of the organization of language, focusing almost entirely on the level of the sentence. From the perspective of the cognitive study of language, this corresponds to a set of questions about the processing of language: "What cognitive processes are involved when human beings produce and understand language on line in real time? How specialized to language are these processes?"<sup>24</sup> Traditionally semantics examines the meaningful contents of language: "Semantics is generally defined as the study of meaning."<sup>25</sup>

One of the first attempts at a cognitive theory of religion as a whole, including ritual structure, was undertaken by E. Thomas Lawson and Robert N. McCauley.<sup>26</sup> Lawson and McCauley's approach to a cognitive theory of ritual is primarily semantic in emphasis. It points beyond a simple lexicon of ritual symbols toward an understanding of the semantic or conceptual structure of ritual. Their approach focuses on an aspect of ritual that is identifiably distinct from the syntactic, and which therefore requires its own set of analytic tools. Thus, contrary to what Lawson and McCauley have said about Staal's approach, suggestive of the opinion that it is at least inferior, if not irrelevant, they are in fact simply doing something different, not superior.<sup>27</sup> As Jackendoff has pointed out, "We cannot afford the strategy that regrettably seems endemic in the cognitive sciences: one discovers a new tool, decides it is the only tool needed, and, in an act of academic (and funding) territoriality, loudly proclaims the superiority of this tool over all others."<sup>28</sup> In light of this, I suggest that given its focus on the organization of ritual activity—syntax rather than semantics—Staal's analytic method is, in fact, useful for the study of ritual.

## II.E. Examples of Ritual Syntax: What a Syntactic Analysis Reveals

As discussed above, syntactic analysis can reveal regular patterns in the organization of ritual activities. In his work on Vedic ritual, Staal has clearly demonstrated the existence of patterns he calls "embedding" and "recursive embedding," while from my own work on Shingon ritual I have identified two kinds of symmetry and terminal abbreviation as consistent patterns. The application of syntactic analysis to the Vedic *agnihotra* in the next section of this paper reveals another pattern, called here "refraction."

### II.E.1. Embedding and Recursive Embedding

Embedding identifies the way in which one ritual is expanded through the insertion, or embedding, of an additional ritual sequence into it (see

figure 1). In the Shingon ritual corpus, there is typically a section of additional recitations of mantra devoted to various deities following the central actions of ritual identification of the practitioner with the chief deity. Additional recitations to other deities can be embedded into this sequence of deities. For example, in some rituals Kūkai, the founder of the Shingon tradition in Japan, is added to the list of deities, while in others Amaterasu, the Japanese Sun Goddess, is added. In this way, the ritual is open to the embedding of additional ritual elements.

Recursive embedding identifies the way in which such embedding can be repeated, either by sequentially embedding ritual sequences or by repeated embedding inside of previously embedded ritual sequences (see figures 2 and 3). The Shingon *homa*—votive fire ritual—is an instance of sequential embedding. Based on the ritual foundation of the Juhachi dō ritual, the different Shingon *homa*-s frequently have a series of five sets of offerings added in the midst of the additional recitations to various deities. These five sets of offerings are not only similar to one another, but are effectively independent rituals in themselves. Staal describes the process of repeated embedding in his article on the “Meaninglessness of Ritual,” drawing on the Vedic ritual corpus which has more complicated rituals than those found in the Shingon tradition.

## II.E.2. Two Kinds of Symmetry

All of the rituals of the Shingon tradition that I have examined are organized symmetrically. That is, there is a central ritual action that the first part of the ritual leads up to, while the second part of the ritual repeats the actions of the first part. There are two ways in which those actions are repeated, however. The most predominant of these is “mirror-image” symmetry in which the order of ritual actions is simply reversed in the second half of the ritual performance. In other words, actions A, B, and C at the start of the ritual are repeated in the order of C, B, and A in the second part of the ritual (see figure 4). For example, in the invitation of the deities into the ritual enclosure the jewelled carriage is sent off to the cosmic *maṇḍala* where they reside, and then returns bringing them into the ritual space. At the end of the ritual, the deities enter into the carriage and are returned to the cosmic *maṇḍala*. Here the logic of the actions imposes a mirror-image symmetry, one in which the actions are performed in reverse order.

There are also instances, however, in which a set of activities is performed in the same order in the second part of the ritual as in the first. In other words actions A, B, and C from the first part of the ritual are repeated in the same order—A, B, and C—in the second part. I have named this latter pattern “sequential symmetry.” These instances are found in sets of actions which themselves have a certain logic of performance that appears

to override the tendency toward mirror-image symmetry (see figure 5). For example, at both the beginning and end of the *homa* ritual the practitioner performs two actions, one “putting on the armor,” and then, “protecting the body.” In both cases—at the beginning and end of the ritual—these are done in the same order.

### II.E.3. Terminal Abbreviation

“Terminal abbreviation” refers to the way in which activities in the second half of a ritual are often abbreviated. In the Shingon corpus of rituals there are two forms of terminal abbreviation. Sometimes the number of repetitions of an action may be reduced. For example, while in the establishment of the ritual space three repetitions of a mantra may be recited, in its dissolution at the end of the ritual the same mantra might be recited only once. Another form of abbreviation is the simplification of a set of actions. For example, inviting the deities from the cosmic *maṇḍala* at the beginning of the ritual performance may take nine actions, while sending them back to their seats in the *maṇḍala* at the end of the ritual may only involve three actions (see figure 6).

## III. APPLICATION OF SYNTACTIC ANALYSIS

### III.B. The Very Possibility of a Syntactic Analysis

As mentioned above the focus on Staal’s claim that ritual is meaningless has almost entirely obscured the question of the utility of his suggestion regarding the syntactic analysis of ritual structures. However, one critic, Hans H. Penner, has directly addressed syntactic analysis, saying that “No one could take his [Staal’s] ‘rules’ [i.e., typical syntactic patterns of ritual organization] and apply them to a ritual, including the ancient Agnicayana ritual which he observed some years ago in a new performance in India. The ‘rules,’ therefore, are an interesting exercise, but they are irrelevant.”<sup>29</sup> Penner goes on in a footnote to this, saying that “Staal knows that his diagrams are not applicable to any ritual.”<sup>30</sup> This seems a rather odd, if not mischievous, reading of Staal’s essay. Staal does indeed quite clearly indicate that the diagrams he has created “do not correspond to any existing ritual.”<sup>31</sup> However, what Staal is attempting to convey is ways of conceptualizing syntactic patterns that may be found in a variety of different rituals.<sup>32</sup> As Staal is attempting to convey a generalization, one should hardly expect him to do so by reference to a specific ritual.

One might wonder whether Penner intends to imply that the kinds of transformations in rituals that Staal is talking about do not occur, or if they do that they are of no possible significance. If we do not accept either of

these two alternatives, then Staal's syntactic analysis employing tree diagrams is hardly irrelevant—particularly as there seems to be no alternative technology for discovering and describing such systematic patterns in the organization of ritual activities.

If we are to take Penner seriously on this point, however, it will be useful to actually apply a syntactic analysis to a specific ritual, and to display that by means of a tree diagram. Having already done so with various Shingon rituals, and wishing to avoid the danger of only finding what I thought I already knew, I decided here to apply the technique to a ritual from a not-unrelated ritual tradition, the *agnihotra* of the Vedic ritual tradition. The *agnihotra* is a relatively short ritual offering into fire performed on a twice-daily basis. Having focused my own attention on the Shingon *homa* for several years, I have long wondered whether this ritual—being widely familiar to those involved in the creation of the tantric ritual tradition—might have formed the immediate precursor to the tantric *homa* in India, leading eventually to the Shingon *homa* in Japan.

Like the gaps in the archeological record of evolution, there are gaps in the historical record of the development of tantric ritual (though, of course, just as the gaps in the one may be filled by new findings of fossil remains, so also new findings in the history of Indian ritual may be forthcoming). Early advances in evolutionary science depended on a close examination and comparison of the structures of plants and animals.<sup>33</sup> Such examinations not only reveal otherwise unseen relations, but also suggest ways in which changes occurred. A close examination of the structure of *agnihotra* can allow us to determine whether it was the direct precursor to the tantric *homa*. Thus, in addition to simply demonstrating the feasibility of a syntactic analysis, the following will also demonstrate the utility of such analyses.

### III.B. The *Agnihotra* in Vedic Ritual Culture

Vedic rituals are generally divided into two broad categories, *gṛhya* and *śrauta*. The *gṛhya* rituals are simpler, relatively younger, and only require a single fire. They form a group of life-cycle rituals, that is, ones that mark significant changes in social identity. They have been referred to as “domestic rites.”<sup>34</sup> *Śrauta* rituals, on the other hand, are more complicated and apparently date from an earlier period in Vedic religious history. These rituals require three fires: “the *Gārhapatya* (householder's fire), the *Āhavanīya* (the fire ‘to be offered into’, which functions as its name implies), and the *Dakṣiṇāgni* (southern fire).”<sup>35</sup> The *gārhapatya* hearth is circular and is located at the west end of the central axis running through the ritual enclosure; the *dakṣiṇāgni* hearth is a demilune and is located along the south edge of the ritual enclosure; and the *āhavanīya* hearth is square and located at the eastern end of the central axis. The *gṛhya* rituals only employ the *gārhapatya* fire in its circular hearth.

The *agnihotra* is a votive ritual performed twice a day, once in the evening and again in the morning.<sup>36</sup> Having both *gṛhya* and *śrauta* forms, the *agnihotra* appears to be something of a bridge between these two categories. It may be performed either on one or three fires, and despite the general injunction that *śrauta* rituals require more than one priestly officiant, even in its *śrauta* form the *agnihotra* only requires one.

In 1939 P.-E. Dumont published translations into French of eight different ritual manuals for the performance of the *agnihotra*.<sup>37</sup> In introducing his collection of translations Dumont gives a general description of the *agnihotra*, which we will quote here at length:

Although the *agnihotra* is a relatively simple sacrifice, it occupies a place of the greatest importance in Vedic ritual. The other sacrifices—such as the sacrifices at the full and new moon, the bloody sacrifice, the soma sacrifice, the horse sacrifice—are more complicated and are offered with more pomp. But what makes for the importance of the *agnihotra* is that it is a daily sacrifice and a perpetual sacrifice. In effect, it is a sacrifice that every head of family belonging to the caste of Brahmans or to the caste of Vaiśyas must offer every day, evening and morning, for the duration of his life.

The *agnihotra* consists essentially of an oblation of milk offered to Agni. In some particular cases, one may offer an oblation of other sacrificial substances, for example: curdled milk, soma, rice gruel, boiled rice, clarified butter, grains of rice, or meat. But, in the normal sacrifice, it is milk that is offered in oblation. One begins by lifting from the *gārhapṭya* fire a flaming brand, by means of which one lights the *āhavanīya* fire; then one places the cloth at the hearth, and then sprinkles the surroundings, and pours an uninterrupted jet of water uniting the *āhavanīya* hearth with the *gārhapṭya* hearth. Following that, one leads in the cow that is to supply the milk for the *agnihotra*. The cow is milked by an Ārya, who gathers the milk in a clay basin, one which must have been made in the summer by an Ārya (that is, by a man belonging to one of the three higher castes, and not by a Śūdra). Then, one takes a few embers from the *gārhapṭya* fire, and these are placed so as to heat the basin and its contents. One adds a little water to the milk, and one then withdraws the basin from the fire. One then draws out of the basin four or five small spoonfuls of milk, and these are poured into the large *agnihotra* ladle; solemnly one carries the offering contained in this ladle to the *āhavanīya* fire, and, after having placed a stick of dry wood on the *āhavanīya* fire, one pours into the fire two libations of milk, the first while reciting the prescribed formula, the second in silence. Then the priest—or the sacrificer, if the sacrificer officiates for himself—drinks the rest of the milk in the ladle. At the end of

the sacrifice, one offers libations of water to the gods, to the fathers [ancestors, RKP], to the seven sages (*ṛṣi-s*), to Agni who inhabits the earth, or to other deities, such as the serpents [*nāga-s*, RKP], and the ants.

The agnihotra is connected with the *agniyupasthāna* rite, which consists of worshipping the sacred fires by reciting the propitiatory stanzas and formulas. The sacrificer first worships the *āhavanīya* fire, then the cow that provides the milk for the agnihotra, then the *gārhapatya* fire; then a second time, the agnihotra cow, then the *āhavanīya* fire again. According to certain texts, the priest also addresses his homage to the house, to the cows, and to the calf of the cow that provides the milk for the agnihotra, to the earth, to the sky and heaven, and to the regions of space.

One should distinguish two agnihotras: that of the evening and that of the morning. These two are really nothing but two parts of one and the same sacrifice. On the other hand, one can consider the agnihotra to be a perpetual sacrifice. In the proper course of things the sacrificer is obliged to offer the agnihotra each evening and morning for his entire life. It is obligatory that this sacrifice be offered for the sacrificer's entire life, without break, until death or until such time that the sacrificer, becoming old, renounces the world to lead the life of an ascetic mendicant. At this point, his son in his turn offers each day, evening and morning, the same sacrifice.

The obligation to offer the agnihotra each day is essential, because it seems clear that the principal objects are the perpetuation of both the continuity of the sacrifice and the continuity of the family of the sacrificer. In fact, according to Kātyāyana, at the end of the *agniyupasthāna*, the sacrificer recites, "You are extended; you are a son; extend me (that is, prolong my life, my descendants) by this sacrifice, by this pious action . . . And enable my sons to continue this work, this manly (virile, effective) action of mine!" Similarly, according to the Āpastamba, the sacrificer recites, "I direct this prayer, that accompanies the light, for the son (for the continuation of my family)."

The agnihotra is a sacrifice, the object of which is to procure for the sacrificer prosperity, health, longevity, wealth in cattle, and, above all, numerous male descendants, that is, the continuation of the family.<sup>38</sup>

The final ritual manual for the performance of the *agnihotra* from Dumont's collection is that of the *Vaitāna Sūtra*. An English translation of that text is included as an appendix to this essay.

III.C. Ritual Actions of the *Agnihotra*

Abstracting from the text, we find the following order of specific actions (n.b.: numbers assigned to actions here do not correspond to numbers assigned to stanzas by Dumont as found in the appended translation):

1. milk cow
2. clarify milk with burning straw
3. add water to the basin (*sthālī*)
4. remove basin to the north
5. arrange cloth
6. sprinkle around fires, with recitation (Jātavedas)
7. pour stream of water connecting *gārhapatya* and *āhavanīya* fires, with recitation (immortality).
8. wipe the two ladles (*agnihotrahavaṇī* and *sruva*)
9. heat the two ladles in the *gārhapatya*, with recitation (expelling Rakṣas)
10. pour four draughts of milk into the *agnihotrahavaṇī* ladle
11. carry ladle and stick of wood to the *āhavanīya*, with recitation (leading the sacrifice)
12. put the *agnihotrahavaṇī* on the straw
13. put stick of wood in *āhavanīya*, with recitation (to Agni)
14. first libation into *āhavanīya*, with recitation (inviting Savitar and Indra)
15. looking at *gārhapatya*, with recitation (prolonging life and progeny)
16. second libation into *āhavanīya*, with silent recitation (Prajapati)
17. raise *agnihotrahavaṇī* over *āhavanīya*, three times, with recitation (joy to Rudras)
18. place *agnihotrahavaṇī* on straw
19. wipe the ladle
20. wipe hands on straw, with recitation (joy to plants and trees)
21. wipe the ladle
22. place sacred thread on right shoulder
23. wipe hands on straw, with recitation (comfort to the Fathers)
24. place stick of wood on *gārhapatya*

25. first libation into *gārhapatya*, with recitation (prosperity)
26. second libation into *gārhapatya*, with silent recitation (Prajapati)
27. place stick of wood on the *dakṣiṇa*
28. first libation into the *dakṣiṇa*, with recitation (Agni)
29. second libation into the *dakṣiṇa*, with silent recitation (Prajapati)
30. sprinkle around three fires, with recitation (Jātavedas)
31. put down the two ladles on the straw to the north of the *āhavanīya*
32. first drinking up of remainder, with recitation (vital breath, *prāna*)
33. touch the liquid
34. second drinking up of remainder, with recitation (embryos, *garbha*)
35. third drinking up of remainder, with recitation (joy to gods)
36. first pouring out of water for the Sun, with recitation (serpents and Itarajanas)
37. clean the ladle on the straw
38. second pouring out of water for the sun, with recitation (serpents and Puṇyajanas)
39. third pouring out of water for the sun, with recitation (Gandharvas and Apsaras)
40. heat the two ladles in *āhavanīya*, with recitation (joy to seven Ṛṣis)
41. wipe *agnihotrahavaṇī*, with recitation (conduct to south)
42. final propitiation

Such a linear presentation, however, is not useful in understanding the way in which the ritual actions are organized.<sup>39</sup> At best, it can tell us that there are some similarities between the *agnihotra* and the Shingon *homa*, such as the use of two ladles and the invocation to Agni.

### III.D. Structure of the *Agnihotra*

The organization of the *agnihotra* is displayed in figure 7. What we find here is a regular pattern in which one structural unit is followed by a transition, and then two more structural units similar to the first. We find this in the highest level of the ritual's organization, where what we are calling here collectively the "major libations" (that is, the libations into each of the



three fires) are followed by a transition, and then by the consumption of the remaining offerings and the offerings for the sun. At one level lower, within the major libations, we find the offerings into the *āhavanīya*, followed by a transition, and then the offerings into the *gārhapatya* and *dakṣina* fires. At the lowest level (of the analysis as presented here), within both the consumption of the remainders and the offerings to the sun, a first ritual action is followed by a transition, and then two more. What characterizes each of the transitional ritual units is that they all involve cleaning of some sort, such as wiping the hands and wiping the ladle.

The way in which this organization of ritual activities occurs at different levels of the ritual leads me to think of it as a kind of “refraction.” The question remains, however, whether the syntactic analysis of other Vedic or related rituals will reveal a similar pattern of refraction. What does seem clear, however, is that since this syntax differs quite a bit from the Shingon tantric *homa*, the *agnihotra* is not in fact the immediate ritual precursor to the tantric *homa* as it is known today in Japan.

#### IV. FROM RITUAL SYNTAX TO COGNITIVE THEORY

In turning our attention now to the question of building on the syntactic analysis of rituals as a means of developing a cognitive theory of ritual, at this point we only consider the question of what would constitute a cognitive theory of ritual. We hope thereby to establish a foundation for later work toward a more detailed cognitive theory of ritual. The discussion here is not proposed as definitive, but rather to set out in broad strokes the different dimensions of what would constitute a cognitive approach to the study of ritual. From this perspective we need to consider two dimensions of the question of what constitutes a cognitive theory of ritual. First, we should consider what a comprehensive approach to the study of ritual might include, and, second, what kinds of research programs currently exist in cognitive science.

In the following section the analogy between ritual and language will give us an overview of what a comprehensive study of ritual might look like. In the section following we will briefly examine the three current research programs in cognitive science—computational, connectionist, and embodied–dynamic.

##### IV.A. What Constitutes a Cognitive Theory of Ritual?

In his recent comprehensive survey of linguistics, Ray Jackendoff has identified six dimensions of the study of language.<sup>40</sup> Furthering the analogy between ritual and language, taken together these six dimensions would appear to also describe a comprehensive study of ritual. These six are:

phonology, syntax, semantics, spatial structure, pragmatics, and historical linguistics. Phonology, dealing with the actual production of speech as sound, corresponds to the study of the articulation found in individual performances of ritual. Just as different persons would enunciate the expression, "Alas, poor Yorick. I knew him, Horatio," in different ways, so also will different practitioners give different ritual performances. In 1982 I observed two performances of the Shingon *homa* performed by a priest in Ise Prefecture, Japan. The practitioner who performed these rituals had also trained in the performance of the tea ceremony (Jpn. *cha no yu*), and I found his performance to be the most aesthetically nuanced of all of the *homa* performances that I observed over a year's study. The precision of his movements and the slightly dance-like flourishes that he employed could be compared to the careful enunciation and rhythmic cadence of a well-trained public speaker, or the delivery of that line from *Hamlet* by a classically trained Shakespearean actor. Attention to the articulation of actions can contribute to the identification of the syntactic and semantic units of a ritual.

Ritual syntax focuses on the ways in which the activities performed in the course of a ritual are organized, while ritual semantics would look at the meanings of ritual agents, actions, objects, and implements, and the relations between them. Spatial structure is a category not commonly considered—according to Jackendoff, the details of "spatial structure are hardly even touched upon."<sup>41</sup> He suggests that

One can think of spatial structure variously as an image of the scene that the sentence describes, a schema that must be compared against the world in order to verify the sentence (a "mental model" in Johnson-Laird's [1983] sense), the physical (or non-propositional) structure of the model in which the truth conditions of the semantic/conceptual structure are applied, or perhaps other construals.<sup>42</sup>

As applied to the study of ritual, one might consider the ways in which different rituals appropriate activities in the ordinary world of human activity as organized metaphors. For example, the *homa* is structured as a feast offered to an honored guest, while the Eucharist employs the metaphor of the Last Supper as its organizing principle. The idea that ritual employs a "spatial structure" links it to broader cognitive issues regarding the non-linguistic representation of the experienced world. Specifically, to what extent do we employ representations of the world that are sequences of actions, an embodied representation rather than a verbal one? Consider, for example, something like the course of action one undertakes when shopping for groceries. This is indeed in part linguistically structured (the grocery list, perhaps), while other aspects would appear rather to be embodied—the order of moving around the grocery store, and so on.

Pragmatics examines the ways in which language is used to communicate, that is, the interpersonal aspects of the use of language. Jacob L. Mey offers as a definition, "Pragmatics studies the use of language in human communication as determined by the conditions of society."<sup>43</sup> For the study of ritual, sociological inquiries would correspond to pragmatics. For example, questions of when and why rituals are performed, who sponsors ritual performances, and the effect of the ritual performance on social stability would constitute a pragmatics of ritual.

Historical linguistics studies how languages change over time, such as the ongoing change of vocabulary, of pronunciation, and of grammar. In relation to ritual, changes such as those in the kinds of rituals that form a ritual corpus and the deities evoked would exemplify a historical approach to ritual studies.

These six aspects of contemporary linguistics—phonology, syntax, semantics, spatial structure, pragmatics, and historical linguistics—can be seen as analogous to the dimensions required for a comprehensive study of ritual.

#### IV.B. Approaches to Cognitive Science

Francisco Varela has identified three different theoretical approaches to cognitive science: computational, connectionist, and embodied–enactive. The first, computational, was inspired by the development of computational theory in mathematics, as for example, the familiar Turing machine and its hypothetical big brother the "Universal Turing machine." The Turing machine paved the theoretical road for the creation of modern electronic computers by dividing computational tasks into an algorithm (or more familiarly, a program) and a mechanism that carried out the algorithm, now usually through a binary system. This model of computation was held to be adequate for understanding human thought (itself defined, circularly, as a kind of computation).

The second theoretical approach identified by Varela is the connectionist. This approach turned to an examination of neural networks, and determined that cognitive processes in humans were much more complex than could be adequately represented by a single, linear application of a sequentially organized series of instructions—as proposed by the computational approach. Rather, a variety of neural events occurring simultaneously were understood to be interconnected in the computational process.

The third theoretical approach identified by Varela, the embodied–enactive, again shifted the focus—now to examining human beings as living organisms fully enmeshed with their environments. For the purposes of ritual studies, the idea of environment can be extended from the physical environment to include the social environment as well.<sup>44</sup> One of the inspirations for this approach was robotics. When the attempt was made to engage

robots with the real world, it was found that the computational approach alone overloaded any computational capacity.<sup>45</sup> For example, trying to match the ability of a human to grasp an object depending solely upon computation would have required vastly more computational capacity than available. Rather than depending solely upon computation, it was found that feedback from the robot's own body allowed it to adjust its actions, employing a much more elegant computational capacity.

Given the nature of ritual as an embodied activity conducted in a socio-cultural context, the third approach seems to this author at least as the only one worth pursuing in the development of a cognitive theory of ritual.<sup>46</sup> The computational approach seems to be both theoretically and pragmatically flawed. It depends upon an analogy between the mind and a universal Turing machine, an analogy that has allowed for idea of a variety of instantiations of mind, such as an electronic computer or a system of beer cans. This latter means that mind is disembodied, and philosophically leads right back to the problems found with Descartes' dualistic conception of *res cogitans* and *res extensa*. The engineering limitations of computation as the basis for robotics indicates the need to take into account the way in which bodies interact with their surrounding environment. Neurologically, connectionism may prove to be the best approach, though the difficulties of relating different levels of analysis are well recognized. Bradd Shore has suggested three levels of analysis, "instituted models (social constructs), mental models (psychological constructs), and neural networks (biological constructs)."<sup>47</sup> While the issue of the relations between these levels is a theoretically important one for cognitive science, in the short term it may be more fruitful for ritual studies to focus on working within a level rather than attempting to also solve questions of relations between levels, or "inter-theoretic relations," at the same time.

For ritual studies, the embodied–enactive approach allows a way of bridging the levels between individual psychology, embodied activity, and the social environment—including the ritual tradition and the religious institutions within which they are maintained.

## CONCLUDING REFLECTIONS

Based on the discussions above, I would like to emphasize that there are characteristics of ritual that have been frequently overlooked, characteristics that a more balanced approach to the study of ritual will need to take into account. This is intended to point to aspects of the project of ritual studies that are in need of further exploration.

Ritual is a form of regularized bodily activity. An important aspect of these regularities is the way in which ritual activities are organized, and

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can be appropriately discussed as a ritual syntax. This is the breakthrough that Staal established in his 1979 article.

There are, of course, a number of other factors which contribute to the forms that bodies of ritual practice, specific rituals, and individual ritual performances take. These include social, political, economic, doctrinal, and yet other kinds of contextual elements. One of the semantic elements of ritual requiring further explication is that rituals often appropriate the organization of other kinds of activities—feasting, bureaucratic petitions, and so on—as a metaphor for ritual performances.

Ritual forms one part of a larger category of human behavior, that is, rule-bound activity. As a consequence the examination of ritual gives us a window on the ways in which such activity is organized and the cognitive contribution to that organization.

Figure 1: Embedding:

A new ritual element or sequence (X) is added into an existing ritual (R).

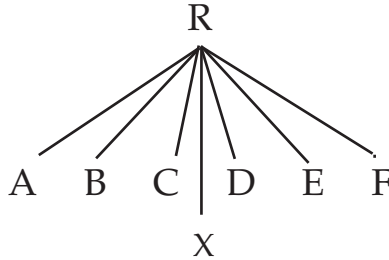


Figure 2: Sequential Recursive Embedding:

New ritual elements or sequences ( $X^1$  through  $X^5$ ) are embedded as a sequence into an existing ritual (R)

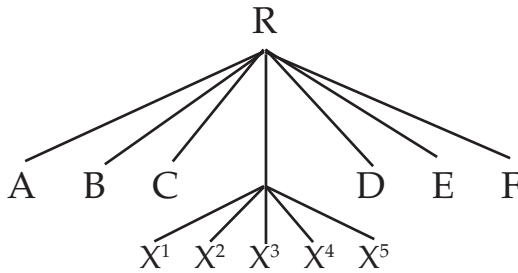


Figure 3: Repeated Recursive Embedding:

A new ritual element or sequence (Y) is embedded into a previously inserted ritual element or sequence (X)

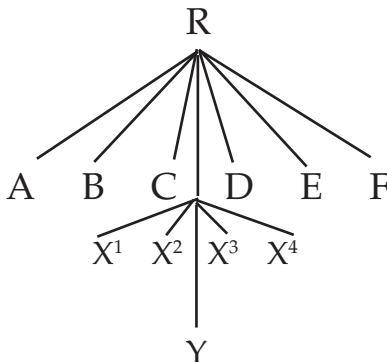


Figure 4: Symmetry: Mirror Image

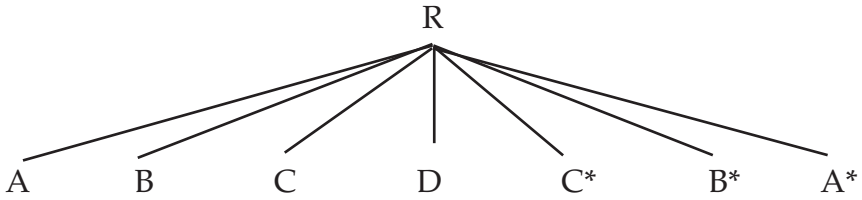


Figure 5: Symmetry: Sequential

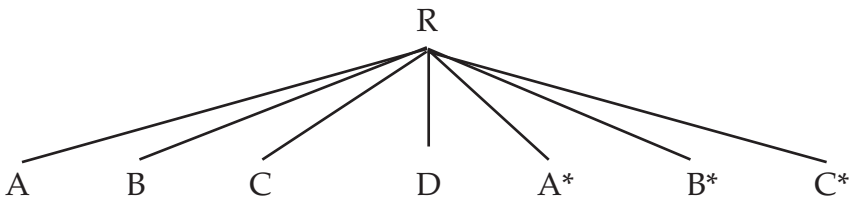
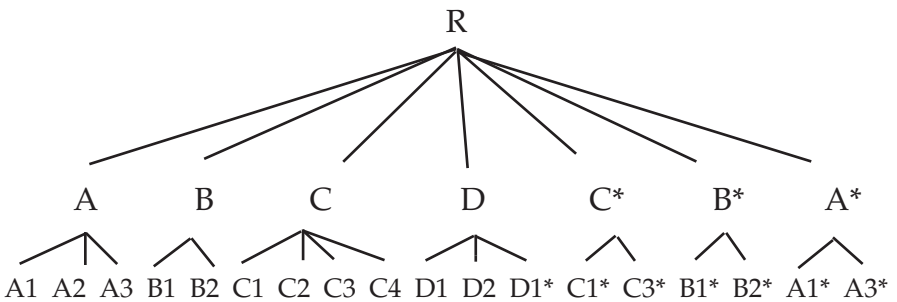


Figure 6: Terminal Abbreviation



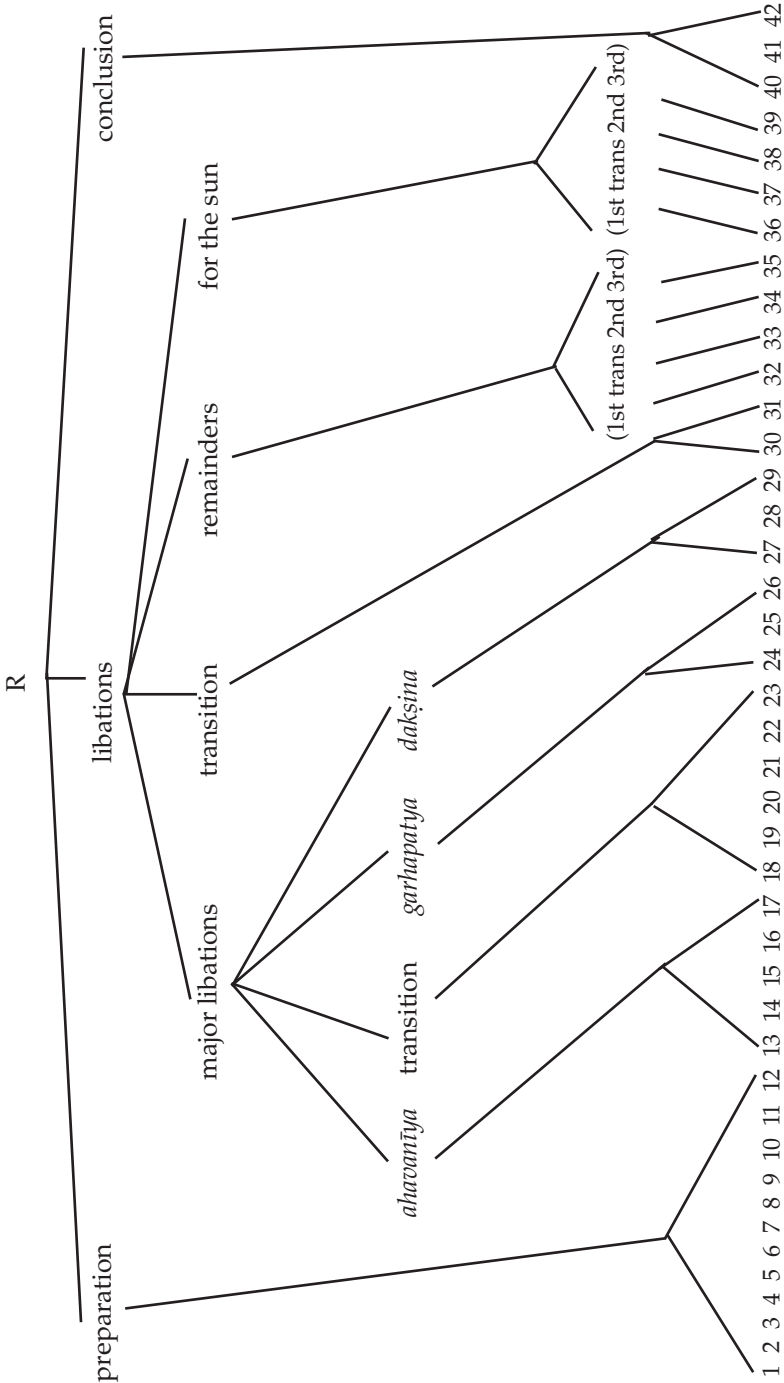


Figure 7: Structure of the Agnihotra



## APPENDIX

The *Agnihotra* Ritual according to the *Vaitāna Sūtra*

translated from

P.-E. Dumont, tr.,

*L'Agnihotra: Description de l'agnihotra dans le rituel védique*  
(Baltimore: The Johns Hopkins Press, 1939), pp. 204–209.

Richard K. Payne

Dumont's emendations are in parentheses ( ); his comments—usually cross-references to the same ritual act in other versions of the text—are in square brackets [ ]; my notes and comments are in angle brackets < >. Dumont's French translation reads rather awkwardly, perhaps being a rather literal translation from the Sanskrit. Rather than attempting to represent Dumont's French literally, I have taken some liberties with sentence structures in order to make the translation read more fluidly in English. In addition, I have placed those of Dumont's internal references that provide additional substantive information into notes, and have eliminated others that are simply cross-references to other sources. The reader interested in the details of this rite's relation to the rest of the Vedic literature is advised to consult Dumont's own notes in the original.

This translation is not intended to be definitive, particularly as it suffers from two handicaps. First, it is a translation of a translation, and second, I have never had the opportunity to actually observe this particular ritual being performed. It is to be hoped, however, that the translation is at least adequate for the purposes of demonstrating the syntactic analysis of ritual. I would also hope that this work draws additional attention to the *agnihotra*, and that more qualified scholars will be able to correct any errors made here.

*Agnihotra* according to the *Vaitāna Sūtra*.

## A. Generalities

1. The *Agnihotra* is a sacrifice which is offered to Agni, each day, evening and morning.

B. The Evening *Agnihotra*

2. After having taken milk from the *gavīdā* cow (this is the *agnihotrī*, the cow whose duty it is to provide milk for the *agnihotra*), the officiant (the *adhvaryu*

or the brahman), acting for the sacrificer, performs the *agnihotra*, that is to say will pour the milk of the *agnihotra*, when hot, into the *garhapatiya* fire.<sup>48</sup>

3. And after having clarified the milk for the *agnihotra* (by means of burning straw), and when the milk has risen up to the edge of the *sthālī* (up to the edge of the bowl that holds the milk), the officiant adds water to it. Then he removes the *sthālī* to the north.

4. Then (unless the rite is being performed in a place where it has been performed previously), the officiant arranges the cloth at the sacred fires; and he sprinkles their surroundings, while reciting (for each of them): “You who are the sacred order, I water the surroundings with the truth, Ō Jātavedas!”

5. After having thus sprinkled the surroundings of the sacred fires, the officiant pours from the *gārhapatiya* to the *āhavanīya*, a stream of water (uninterrupted), while reciting: “You are the drink of immortality. Unite immortality with immortality.”

6. Then, after having wiped the *agnihotrahavaṇī* ladle and the *sruva* (the small ladle), the officiant heats the two ladles (in the *gārhapatiya*), while reciting: “Chased and burnt are the Rakṣas. Chased and burnt are the enemies. Expelled and burnt are the Rakṣas. Expelled and burnt are the enemies.”

7. Next, using the *sruva*, he draws (out of the *sthālī*), and pours into the *agnihotrahavaṇī* ladle, the draughts (four draughts of milk).

8. Then, after having raised the *agnihotrahavaṇī* ladle, over which he holds a stick of wood, up to the level of his mouth, he then walks (in that position) to the *āhavanīya* fire, while reciting: “Here, I lead the sacrifice to the highest heaven.”

9. After having put down the *agnihotrahavaṇī* ladle on the straw (to the west of the *āhavanīya*), the officiant places the stick of wood in the *āhavanīya* fire, and murmurs: “You who are the refulgence of Agni, you who possess the wind, you who possess the vital breath, you the celestial, you the brilliant, I pour out heaven to you (to obtain heaven).”

10. Next, as the stick burns, he makes the first libation, while reciting: “Divine Savitar join us here, join us here night accompanying Indra—that Agni accept with goodwill (this offering)! Svāhā!”

11. Then, he looks at the *gārhapatiya*, while reciting: “That this world (earth) prolong me (prolong my life, prolong my descendants)!”

12. Next, he makes (in the *āhavanīya* fire) a second libation, greater (than the first), and recites, but only in thought: “O Prajapati, none other than you, none in the encircling, producing all forms, that which we desire as we make the oblation, give to us! Empower us to be masters of riches!”

13. Then the officiant raises the *agnihotrahavaṇī* over the *āhavanīya* fire three times to the north, while reciting: “I give joy to the Rudras.”

14. After having placed the *agnihotrahavaṇī* on the straw, the officiant wipes (with his hand) the bowl of that ladle, from base to top (i.e., from the handle to the tip of the bowl).

15. Next, to the north (of the spot where he has placed the ladle), he wipes his hands (on the straw), while reciting: "I give joy to the plants and trees."

16. Then, after having wiped the bowl of the *agnihotrahavaṇī* ladle from the base to top (i.e., from the handle to the tip of the bowl) a second time, the officiant places his sacred thread on his right shoulder; and, to the south (of the spot where he has placed the ladle), he wipes his hands (on the straw), while reciting: "I give *svadhā* <comfort> to the Fathers."

17. The oblations of the *agnihotra* into the two fires behind (the *gārhapatya* and the *dakṣiṇa*) are not done at this point (according to some) when it is a question of a particular vow (it is optional). But, according to the masters (of the school to which the author of the *Vaitāna Sūtra* belongs) it is always obligatory.

18. One proceeds in the following manner. After having placed a stick on the *gārhapatya* fire, the officiant draws one (first) libation out of the *sthālī* by means of the *sruva*, and pours that libation into the *gārhapatya*, while reciting: "May the master of prosperity produce prosperity here! May Prajāpati (the master of progeny) preserve the progeny here! To Agni, the master of the house, the rich master of prosperity! Svāhā!"

And he makes a second libation into the fire in the same manner as he made the second libation into the *āhavanīya* (cf. no. 12).

Then (after having placed a stick on the *dakṣiṇa* fire) the officiant draws up (by means of the *sruva*) a first libation from the *sthālī*, and pours this libation into the *dakṣiṇa* fire, while reciting: "To Agni, the consumer of food, the master of food! Svāhā!"

[And he makes a second libation into the *dakṣiṇa* in the same manner as the made the second libation in to the *āhavanīya* fire].

19. After that, the officiant sprinkles (the surroundings of each of the three sacred fires), while reciting (for each of them): "You, the Truth, with the Sacred Order (I sprinkle the surroundings, oh Jātavedas)!"

20. Then he puts down the *sruva*, the *agnihotrahavaṇī* ladle, and (the plants on) the straw to the north of the (*āhavanīya*) fire.

21. Then the officiant drinks up the remainder (of the *havis*, of the milk) found in the *agnihotrahavani* ladle. He proceeds in the following manner:

He drinks up (a first time) a part of the remainder, after having recited: "I give joy to the vital breath." Next, he touches the liquid. Next, he drinks up, a second time, a part of the remainder, after having recited: "I give joy to the embryos." And finally, he drinks up all of the remainder, after having recited: "I give joy to all the gods."

22. Then, prior to cleaning the *agnihotrahavaṇī* ladle, the officiant uses that ladle to pour out water (for the Sun), while reciting: "I give joy to the Serpents and the Itarajanas." Next, after having cleaned the ladle on the straw, he pours out the water (to the Sun) a second time (using that ladle), while reciting: "I give joy to the Serpents and to the Puṇyajanas." And finally, (in the same manner) he pours out the water (for the Sun) a third time, to the west (of the *āhavanīya* fire), while reciting: "I give joy to the Gandharvas and to the Apsaras."

23. After that, the officiant heats the *sruva* and the *agnihotrahavaṇī* ladle (in the *āhavanīya* fire), while reciting: "I give joy to the seven ṛṣis."

24. Next, he wipes the handle of the *agnihotrahavaṇī* ladle from top to bottom (i.e., from the bowl to the tip of the handle), while reciting: "I conduct to the south."<sup>49</sup>

25. In the event a mistake has been committed during the rite of milking the *agnihotra* cow (cf. no. 2), or during one of the rites which follow, he makes an offering of a libation to the divinity for whom the rite was performed.

### C. The Morning *Agnihotra*

26. In general, the rites of the morning *agnihotra* are the same as those of the evening *agnihotra*.

27. But, for the morning *agnihotra*, when after having placed the *agnihotrahavaṇī* on the straw, the officiant puts a stick into the ahavaniya fire (cf. no. 9), and instead of saying: "You who have the refulgence of Agni," etc., he says: "You who have the refulgence of Sūrya (of the Sun)," etc.

28. And when, as the stick burns, he pours out the first libation (cf. no. 10), instead of saying "Gather together with the God Savitar, gather with the night accompanying Indra," etc., he recites: "Gather together with the God Savitar, gather together with the dawn accompanying Indra; to Sūrya (the Sun) accept (this offering) with goodwill! Svāhā!"

29. And when, after having cleaned the *sruva* and the *agnihotrahavaṇī* ladle (in the ahavaniya fire), instead of wiping the handle of the *agnihotrahavaṇī* ladle from top to bottom (i.e., from the bowl to the base of the handle), he wipes it from bottom to top (i.e., from the base of the handle to the bowl).

30. All of the other rites are the same.

### D. The *Agniyupasthāna*

31. The *agniyupasthāna* (adoration of the fire by the sacrificer) is done as it is described in the Brāhmaṇa.<sup>50</sup>

## NOTES

I would like to thank Glenn Wallis and Bonnie A. Payne for their very helpful comments and suggestions, and Natalie Fisk for her careful reading of the text.

1. Frits Staal, "The Meaninglessness of Ritual," *Numen* 26, no. 1 (1979): pp. 1–22.

2. See for example, Hans H. Penner's abusive "Language, Ritual and Meaning," *Numen* 32, no. 1 (1985): pp. 1–16. Penner misreads Staal at several points, at times so egregiously as to almost seem to be intentional. Penner also makes some factual errors, as for example his claim that rituals have no authors. It is unclear what he could possibly mean by this, but certainly the Shingon rituals with which I am familiar have known authors.

3. This applies to both emic and etic understandings of the function of a ritual. Staal points out, for example, that as early as the work of Robertson Smith, Hubert and Mauss, van Gennep, and Durkheim, it had been recognized that the same ritual could serve different functions depending on the context. Staal quotes van Gennep, "the same rite, remaining absolutely the same, can change its meaning depending on the position it is given in a ceremony, or on whether it is part of one ceremony or another" (Frits Staal, "The Search for Meaning: Mathematics, Music, and Ritual," *American Journal of Semiotics* 2, no. 4 [1984]: p. 5).

4. See for example, not only Penner (n. 2, above), but also Michael Everson, "The Study of Ritual as an Aspect of Human Religiosity," *The Mankind Quarterly* 32, nos. 1 & 2 (Fall/Winter 1991): pp. 57–75. Available on-line: <http://www.evertype.com/misc/ritual.html>, accessed February, 2005.

5. The "principle of charity" has been defined as the hermeneutic principle that "If a participant's argument is reformulated by an opponent, it should be expressed in the strongest possible version that is consistent with the original intention of the arguer. If there is any question about that intention or about implicit parts of the argument, the arguer should be given the benefit of any doubt in the reformulation." Jonathan Davis, "A Code of Conduct for Effective Rational Discussion," [http://www.ukpoliticmisc.org.uk/usenet\\_evidence/argument.html](http://www.ukpoliticmisc.org.uk/usenet_evidence/argument.html) (accessed May 3, 2005). The principle originates with Quine's discussion of the problems of translation. See Staal's own discussion in Frits Staal, *Universals: Studies in Indian Logic and Linguistics* (Chicago: University of Chicago Press, 1988), pp. 6–7.

6. A systematic treatment of Staal's critics can be found in Carl Andrew Seaquist, "Ritual Syntax" (Ph.D. dissertation, University of Pennsylvania, 2004).

7. Staal, "Meaninglessness," p. 3
8. Though neither typical of most critiques of Staal, nor representative of the rest of his article, the context of Staal's theorizing is recognized by Robert Sharf in a footnote to his "Thinking Through Shingon Ritual" *Journal of the International Association of Buddhist Studies* 26, no. 1 (2003): p. 54, n. 5.
9. Staal, "Meaninglessness," p. 3.
10. Penner, "Language, Ritual and Meaning," p. 3.
11. Sharf, "Thinking Through Shingon Ritual," p. 53. See also Penner.
12. Robert A. Segal, *The Myth and Ritual Theory* (Oxford: Blackwell Publishers, 1998).
13. For example, E. Thomas Lawson and Robert N. McCauley, *Rethinking Religion: Connecting Cognition and Culture* (Cambridge: Cambridge University Press, 1990).
14. Frits Staal, *Rules Without Meaning: Ritual, Mantras and the Human Sciences*, Toronto Studies in Religion, vol. 4 (New York: Peter Lang, 1989), p. 21.
15. Sharf, "Thinking Through Shingon Ritual," p. 53.
16. Staal, "Meaninglessness," p. 11. Repeated in Staal, *Rules Without Meaning*, p. 134.
17. Compare Poul Andersen's statement that "the concept of meaning probably does not really make any sense ... without being anchored in people—i.e., those to whom things mean" ("Concepts of Meaning in Chinese Ritual," *Cahiers d'Extrême-Asie* 12 [2001]: p. 161). Despite the evident similarity to Staal's assertion, Andersen's article intends to be critical. For example, Andersen quotes Kenneth Dean's summary of Staal's assertions regarding the relation of ritual and meaning: "in and of itself ritual is meaningless and therefore open to endless interpretation" (quoted from Kenneth Dean, *Lord of the Three in One: The Spread of a Cult in Southeast China* [Princeton: Princeton University Press, 1998], p. 9). Andersen then goes on to say that his "fundamental problem with statements such as these is not so much that they are false, but rather that they are vacuous. For it appears to me that 'in and of itself,' *everything* is meaningless" (p. 162, emphasis in original). It seems odd that when Staal places meaning in the human realm of language it is vacuous, while when Andersen does it, it is significant.
18. Sharf, "Thinking Through Shingon Ritual," pp. 53–54.
19. Frits Staal, *Exploring Mysticism: A Methodological Essay* (Berkeley: University of California Press, 1975).
20. *Ibid.*, p. 4.

21. Robert van Valin and Randy La Polla, *Syntax: Structure, Meaning and Function* (Cambridge: Cambridge University Press, 1997), p. 3. Such an approach is, of course, in contrast to the Chomskyan one that hypothesized a single Universal Grammar. Some of Chomsky's interpreters concluded that since the Universal Grammar would be equally revealed by the study of any single language, it was concluded that comparative studies were unnecessary. See Ray Jackendoff, *Foundations of Language: Brain, Meaning, Grammar, Evolution* (Oxford: Oxford University Press, 2002), p. 75, for a discussion of this misunderstanding of Chomsky.
22. David M. Perlmutter and Scott Soames, *Syntactic Argumentation and the Structure of English* (Berkeley: University of California Press, 1979), pp. 26–29.
23. Jackendoff, *Foundations of Language: Brain*, p. 24.
24. van Valin and LaPolla, *Syntax*, p. 4.
25. John Lyons, *Semantics*, 2 vols. (Cambridge: Cambridge University Press, 1977), I:1.
26. Lawson and McCauley, *Rethinking Religion*.
27. *Ibid.*, pp. 59, 167–168.
28. Jackendoff, *Foundations of Language*, p. xiii.
29. Penner, "Language, Ritual, and Meaning," p. 2.
30. *Ibid.*, n. 3.
31. Staal, "Meaninglessness," p. 18.
32. Two additional issues regarding Penner's critique that go beyond the scope of this essay are the meaning of the term "rules" in Staal's usage, and whether Staal actually intended, as Penner implies (p. 1), the entirety of the theoretical structure of transformational or generative grammar. My own understanding is that Staal intended "rules" to be generalizations about typical forms of ritual organization, since the patterns that he identifies are based on his study of Vedic rituals, rather than a kind of Chomskyan deductive description of "ritual competency." Second, although Staal employs the terminology of "transformation," he did not intend the term to be burdened with the full weight of Chomskyan and post-Chomskyan theory.
33. See <http://www.ucmp.berkeley.edu/clad/clad1.html> for a discussion of the modern application of these techniques.
34. Jan Gonda, *Vedic Ritual: The Non-Solemn Rites* (Leiden: E.J. Brill, 1980), p. 3. Gonda uses the term "non-solemn" for these rites.
35. Stephanie W. Jamison, *The Ravenous Hyenas and the Wounded Sun: Myth and Ritual in Ancient India* (Ithaca, New York: Cornell University Press, 1991), p. 19.



36. The evening fire is considered primary. Gonda, *Non-Solemn Rites*, p. 416. As Staal suggests generally about ritual, there are a variety of disparate functions attributed to the *agnihotra*. Citing several sources, Gonda indicates three such functions for the *agnihotra*: (1) maintaining the course of the sun, i.e., the processes of sunset and sunrise, (2) that the oblations satiate the air, sky, earth, man, and woman that they enter, and (3) that the oblations reach the sun, where they become rain, which in turn becomes the food that nourishes living creatures (*Non-Solemn Rites*, p. 416).

37. P.-E. Dumont, *L'Agnihotra: Description de l'agnihotra dans le rituel védique* (Baltimore: The Johns Hopkins Press, 1939).

38. Dumont, *L'Agnihotra*, pp. v–vii. The translation here is of the opening to Dumont's introduction, his discussion becomes more technical and textual thereafter.

39. This is one of the issues around which the syntactic analysis of ritual through the use of tree diagrams parallels the modern development of syntactic analysis of language. Van Valin and LaPolla note that

One of the most important theoretical claims Chomsky made in his early work was that no theory of grammar could approach descriptive or explanatory adequacy if it recognized only a single level of syntactic representation, namely the overt or surface form. He argued that an additional, abstract level of syntactic representation is required (p. 17).

40. Jackendoff, *Foundations of Language*.

41. *Ibid.*, p. 12.

42. *Ibid.*

43. Mey, *Pragmatics*, p. 6.

44. Armin W. Geertz points out that while “even hardcore neuroscientists are realizing that cognition is a *somatic and social* phenomenon as well as a neural one ... most scholars of religion currently using cognitive approaches either deny or underplay the importance of culture in cognition, and, subsequently, in the cognitive science.” Armin W. Geertz, “Cognitive Approaches to the Study of Religion,” in *New Approaches to the Study of Religion*, ed. Peter Antes, Armin W. Geertz, and Randi R. Warne, 2 vols. (Berlin: Walter de Gruyter, 2004), II: 354. I would suggest that one reason for this lack of attention to the cultural dimensions of cognition on the part of scholars of religion has been the unquestioned assumption of the primacy of experience in the understanding of religion, and a knee-jerk rejection of any approach that appears to be reductionistic.

45. Andy Clark, *Being There: Putting Brain, Body, and World Together Again* (Cambridge: The MIT Press, 1997), p. 23.



46. For a comprehensive discussion of the differences between computational, connectionist and embodied theories of cognition, as well as a convincing argument for the superiority of the embodied, see Francisco J. Varela, Evan Thompson, and Eleanor Rosch, *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge: The MIT Press, 1991).
47. Bradd Shore, *Culture in Mind: Cognition, Culture, and the Problem of Meaning* (Oxford: Oxford University Press, 1996), p. 344.
48. Dumont: According to the work by Caland, the word *gaviḍā*, a strange name given to the *agnihotra* cow, has its origin in an erroneous interpretation of a passage from the Gopatha Brāhmaṇa: I.3.11, 12. <The reference to Caland is to: Willem Caland, *Das Vaitānasūtra des Atharvaveda* [Wetenschappen and Amsterdam: Verhandlingen der K. Akademie, 1910]>.
49. Dumont: cf. Śārikah. nos. 22 + 71. ("I conduct them to the south." (?) Cf. Caland: Vaitāna-sūtra, p. 21.)
50. Dumont: However, the Gopatha-Brāhmaṇa (the Brāhmaṇa of the Atharvaveda) such as we have, contains no such description of the *agniyupasthāna*.