An Experimental Method for the Study of Time Perception at the Individual Level
— with Reference to a Case Study in a Catholic Community in Mani, Yucatan, Mexico—

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The aim of this paper is to describe and clarify several aspects of time perception complex from a working hypothetical concept of a small Catholic Community, Mani. The main findings are as follows:

The center and the four quarters, the public nature of communal land, re-presentation of mythological facts, public or universal mindedness of prayer and compadrazgo in Catholicism are vital religio-cultural factors in terms of time perception.

From the perspective of Maya-Catholicism complex, Catholic church, Maya cross (cruz verde), the center of Maya community k’iwic, sacred ceiba tree (yaxche), and cenote (actun) are surviving relics of remote antiquity.

Four analytical models for time perception are proposed for more analytical and heuristic study of time perception both at the individual level and the collective level.

Key Words: time perception, Catholicism, Maya tradition, Maya-Catholicism complex

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Introduction

What is religion? From what angle and in what way should religion be inquired into? How are the purposes and methods for clarifying the inquiry properly set? What is the most scientific and accurate method for the study of religion? How is the validity and reliability of the method established?

In order to deal with these problems the present author tentatively defines religion as follows:¹)

Religion is a system of beliefs and practices which give meaning to every aspect of human life and its followers believe that they can concern with any problem they are involved in. In most cases its followers experience a real sense that a divine or superhuman power lives in them.

The definition includes invisible religious consciousness and visible religious behavior. It also indicates that pressures towards coherent cognitive consistency and a socially shared set of meanings of irrational aspects of life are inherent in religion.

The present author finds the sociological theories developed by Nobukiyo Nomura, É.Durkheim and Max Wever more heuristic and analytical ²). Their theories emphasize four major traits of religion: surviving relics of remote antiquity, public- or universal-mindedness, cognitive consistency in the meanings of irrational aspects of life and integration-inner adjustment function. Religious phenomena trace their origin back to primeval antiquity and religion preserves various relics of ancient days. Religious teachings and behavior cross the border and extend all over the world to be shared for the realization of the common good. Religion inherently provokes intense conflicts with worldly rational way of thought and behavior, so that it holds social tensions all the time inspiring the followers to live a better life. Religion contributes to the integration of the whole society by providing a unifying value system, and to the better personal inner adjustment of frustration by synthesizing the inner mental processes with social adaptation.

Thus these traits underlie at the root of religion. On this viable hypothesis a heuristic and operational analytical perspective should be proposed to conduct an intensive field work or a scientific experiment aiming at a concrete and detailed analysis.

Then what is a more heuristic and analytical perspective to approach these theoretical
problems of studying religious phenomena with scientific exactitude? The present author finds Nomura’s working hypothetical concept constructive and operational to provide some kind of solution to the problems. Nomura proposed a working hypothetical concept of religio-cultural integration. He maintained that religion exists in the core of society or culture and that it influences some parts to a great extent and other parts to some extent. According to his most testable operational concept, religion provides a socially or culturally shared set of cognitions which enable members of a society to interpret real experiences in many-sided aspects of life and to provide a disciplined guide to such cognitive problems as self-identity or goals in life.

In support of Nomura’s operational concept the present author has been conducting cross-cultural experiments and fieldworks. Any experiment and fieldwork is to be scientific. For this reason, the present author limits the object of scientific study to middle range or intensive field in conformity to convincing arguments of R.K.Merton and E.E.Evans-Pritchard (E.E.Evans-Pritchard 1962 pp.1-129;R.K.Merton 1949 pp.39-72) and thus the present author finds it more analytical and heuristic to study a Catholic culture integration of Lowland Maya communities in Mexico from the perspective of Maya-Catholicism complex.

In order to testify the validity and reliability of Nomura’s working hypothetical concept of religio-cultural integration, the present author himself has carried out two cross-cultural fieldworks including empirical experiments: A Study of Traditions and Changes of Sacred Fires and Social Structure in Zoroastrian Parsis Community in Navsari, Gujarat, India; A Study of Catholic Culture Integration of Lowland Maya Communities in Mexico. The former has been done between 1977 and 2012 and the latter between 1983 and 2012. This paper treats some concrete results of the latter. The presentation of this paper is as follows:

Firstly the empirical findings of field studies and experiments from 1983 to 2011 in Mani are to be abstracted in terms of time perception.

Secondly hypothetical analytical models of time perception and working hypotheses are to be proposed.

I Complex characteristics of time perception in Mani—the main empirical findings of field studies and experiments from 1983 to 2011—

Time by a pendulum clock is continuous and uniform. It is an ordinary and material time. But this continuous uniform material time is in actuality discontinuous non-uniform
non-material in our everyday life both at the individual level and at the collective level. Diverse time perceptions can be brought into existence in terms of both individual and social dimension.

This time perception is a complex of contradictions and irrational properties. What is a scientific method for analyzing time perception with objective exactitude and concrete details?

Time is, just similar to space, an essentially fundamental reference framework that regulates and influences an interpretation of nature, human beings, society and culture. In this connection, to study time is indispensable for further clarification of what underlies at the root of nature, human beings, society and culture.

Time in Mani, which is situated in the district of Lowland Maya in Mexico, is composed of clock-time and non-clock-time. In their everyday life time is perceived as discontinuous non-uniform non-material both at the individual level and at the collective level. The present author tries to analyze their time perception complex from a working hypothetical concept of religio-cultural integration.

In the course of studies, it is to be clarified to what extent Catholicism influences their construction of time perception. Analyses are attempted on the viable hypothesis that four major traits underlie at the root of religion: surviving relics of remote antiquity, public- or universal-mindedness, cognitive consistency in the meanings of irrational aspects of life and integration-inner adjustment function.

Most of the data and evidence for analysis come from the fieldwork studies by the present author which are presented at the end of this paper as list of references. Relevant specific facts are treated with much exactitude in these articles. For this reason, the article concerned is not shown each time the related data or evidence is used for analysis but the minimum essential references will be quoted when absolutely necessary.

The empirical findings from intensive studies of Christianity are quoted not only for a critical comparison with those from the present author but also for one of the working hypotheses in Mani. And for the same purpose those from the present author’s studies of Zoroastrian Parsis in India are also to be quoted.

Mani is located in the district of Lowland Maya where Maya is still spoken in their everyday life. Spanish is used in school and church. Not a few people of Mani are bilingual. Things are fundamentally different with Zoroastrian Parsis. They migrated from ancient Iran to Gujarat in India in order to maintain their traditional religion. In Gujarat they used not their mother tongue, Persian but Gujarati. In Mani Maya is the solid bedrock upon which Catholicism has been established with Spanish as mother tongue. This is the case with
Christians in Japan which accepted Catholicism in the 16th century. By contrast, Zoroastrian Parsis have maintained their religion on the solid bedrock of Gujarati.

In Mani they accepted Catholicism and maintained it on the solid bedrock of their mother tongue of Maya. Maya elements have survived for generations on such language basis in Mani. Maya is the most useful means of mutual communication and it comprehends existing complicated connotative or denotative ideas about nature, human beings, society and culture. In actuality there are found different degrees of comprehension of Maya between generations in Mani. However it is indispensable to take all these above-mentioned facts into consideration for the analysis of Catholic culture integration of Lowland Maya communities in Mexico.

To some extent the cultural complex in Mani has been participated in and shared by means of Maya. This Maya traditional cultural complex is an old, solid and deep substructure. To analyze it with scientific exactitude is in fact extremely difficult. But there exist noteworthy facts which are to be studied in terms of pre-Spanish tradition in Mani.

Thus the present author finds it more analytical and heuristic to study a Catholic culture integration of Lowland Maya communities in Mexico from the perspective of Maya-Catholicism complex. In the complex are found lots of contradictions and irrational properties which should be analyzed in some way or other. For religion has been maintained and developed in the socio-cultural hard realities filled with such contradictions and irrationalities.

1 Maya traditions —religious relics of antiquity—

As has been described, religious phenomena trace their origin back to primeval antiquity and religion preserves various relics of ancient days. This religious important trait is closely related with time perception. Religion maintains relics of antiquity by means of symbols and rituals. For instance, this is the case with the Credo of Christianity in Japan and of Catholicism in Mexico. Sacred Fires of Zoroastrian Parsis are also concrete cases in point. Religion maintains consistently such symbols and rituals in a huge time range of thousands of years from ancient times down to the present day. From this perspective those symbols and rituals are to be analyzed which have been consistently preserved in the cultural complex in Mani.
1) The center and the four corners (The five cardinal points)

In Mani there exists an ancient concept of the center and the four corners (the five cardinal points). Archaeological and historical empirical findings show that the concept is of remote antiquity⁴). The concept is preserved in sacred old rituals for the Gods (Kagura) in Japan, shamanism in the Eurasian Continent and the Way of the Ying and the Yang in China, but it survives quite in a different way from those cases.

According to the archaeological facts about Post-Classic Yucatec settlement patterns, the temple or temples were located at the core area of each community, and around these temples extended the houses. The Maya communities were divided into four wards, Tzuculs and these four endogamous wards were consisted of exogamous patrilineages. Around the traditional Mayan four regional capitals developed the hexagonal lattices of secondary centers and the tertiary hexagons developed around these secondary centers.

Based upon the traditional Mayan quadripartite view of the universe, the earth is flat and four cornered. Each cardinal point had a color value: red for east, white for north, black for west, yellow for south and green at the center. Each ward was associated with this traditional color value.

As Michael D. Coe argued, every community in Yucatan had two heaps of stone facing each other at each of four entrances to the community. One of the oldest inhabitants of 87 years old in Mani says that the custom was observed when he was a small child. The two heaps of stone were used in Maya Uayeb ritual.
In the Uayeb ritual, each year was associated with the above-mentioned color value and cardinal directions. In Yucatan before the Conquest, Bacab (Sky Bearer and Wind God) and a Ch’ac (Rain God) were arranged for each direction with the appropriate color designation.

This Maya quadripartite organization regulated even the community structure. The Maya communities were divided into four wards, Tzuculs and these four endogamous wards consisted of exogamous patrilineages.

2) Established rituals

(1) Maya prayers by Men (Maya medicine man=priest)

The Maya ancient concept of the center and the four corners (the five cardinal points) in Mani has been maintained by means of Maya prayers by Men (Maya medicine man=priest). Men is believed to preserve Maya traditions, cure various kinds of diseases and ensure the authenticity of Maya rituals. The Maya tradition enables the people of Mani to recover themselves from diseases or social anxiety.

Men prays only in Maya to the Maya gods whenever he offers such consecrated sacred drink sak’ap or balche to the ground. The people of Mani understand the meanings of Men's prayers for the good of water, ground and rain in Maya. Men’s prayers on these occasions are always offered in Maya. Only his prayers in Maya are answered by the Maya gods for the desired effects to be brought about. In these Maya prayers by Men frequently appeared a great number of verbal or non-verbal expressions of the Maya ancient concept of the center and the four corners (the five cardinal points).

Things are very different with Zoroastrian Parsis. They also have maintained the old Persian traditional symbols and rituals. But the Zoroastrian Parsis laity can hardly understand the meanings of prayers or religious performances by Zoroastrian priests. Very few of the laity can follow the meanings of prayers in Avesta or Pahlavi by priests. The Parsis laity change every sound and letter of these Avesta or Pahlavi prayers into that of Gujarati for their everyday use. They entrust it with the Parsis priests to understand and preserve the meanings of Zoroastrian prayers or ritual processes.

In Mani the consecrated offerings are dedicated to the Maya divine beings who are believed to preside over the four corners both in the east and in the sky. Four ch’acs are believed to be in the east and four balams are in the sky.

The people of Mani believe in these divine beings by means of their traditional Maya rituals. Consequently Maya expressions of ‘entrance in the east sky’ ‘four corners in the sky’
'divine beings in the four corners in the sky' provide a socially shared set of recognitions which enable them to recreate and represent real experiences.

Men produces a transition from myth to reality or from mythical themes to physical themes by his Maya prayers and ritual performances. Men provides a mythical reconstruction of real experiences so that the people of Mani can render acceptable to their mind existing various states or the like. In this sense they make mythical facts real or acceptable by means of Men's prayers and ritual performances. This sort of realization or re-presentation of mythical facts has been carried out for generations in Mani. A typical example of this is ch'ach'ac.

(2) sak'ap

The Maya ancient concept of the center and the four corners (the five cardinal points) exists not only in the Maya prayers by Men but also in the other Maya religious acts. sak'ap, a traditional Maya religious act, no doubt represents the concept. This affords an actual example of how religious consciousness is represented by means of religious act. The people of Mani represent their ancient Maya traditions by means of sak'ap.

Whenever they offer sak'ap, they put in the allotted points 5 Maya bowls (jicara) filled with Maya sak'ap before they pray. Then they dip up small amount of sak'ap with a piece of leaf (shibché) to scatter it on the four directions. The prayers, offerings, and other appliances are all traditional Maya. Those who are not able to make themselves understood in Spanish in their everyday life can perform sak'ap in the proper way.

For the sak'ap in milpa, they go to the corn field, put up a stick in the four cardinal points and offer sak'ap before they mow weeds between the sticks into about the width of a narrow path. On this occasion, they dip up small amount of sak'ap with a piece of leaf (shibché) to scatter it in the order of east (lakin), north (shaman), west (chikin), and south (nojol).

When they offer sak'ap in the slash-and-burn field or for the corn harvest festival, they follow this way without fail. Those women who have had few opportunities to work in the corn field know sak'ap and the way it should be there. For sak'ap finds its way into their everyday life and has grown firm roots in their society. In contrast, the Zoroastrian Parsis laity do not know the meanings of prayers or rituals performed by the priests, though they in fact pray and do some religious rites. They entrust it with the priests to comprehend the proper meanings of religious matters.

sak'ap is believed to be the most essential religious act on the Maya religious occasions of 'ritual for water or well (hua'ji chee'm)' 'ritual for land (jetz'lu'um)' 'ritual for milpa (hua'ji kol)'
'ritual for rainfall (ch’ach’ac). sak’ap is offered with great frequency all over the community and that it is offered by both Men and people in general.

Men and the people of Mani share their ancient Maya cognition and participate in it. This shows a concrete example of the above-mentioned major traits underlying at the root of religion: surviving relics of remote antiquity.

(3) yumtz’i lob

The Maya ancient concept of the center and the four corners (the five cardinal points) is inseparably connected with the Maya pagan deities, yumtz’i lob.

yumtz’i lob, Maya pagan deities, are closely associated with natural elements (wood, mountain, bush, rain, water, wind and the like), animals (deer, bee, horse, dog and the rest), village, cenote (actun), well, etc. These Maya deities are believed to dwell in the east sky to protect the cardinal four corners of heaven, sky and cloud. They are narrated that way in Maya oral traditions.

In Mani they offer sak’ap or balche, traditional Maya food prepared from corn, to yumtz’i lob who are believed to descend from the sky to take them. The consecrated offerings are not raw, but are all boiled or roasted in the Maya traditional way. It is widely believed in Mani that yumtz’i lob will not punish them with disease by means of evil wind (ik) as long as they offer the prayers and food properly following the Maya traditional way. Nor will they do damage to their plowed fields or domestic animals.

Maya pagan deities including Bacab and Ch’ac are believed to dwell in the center, four cardinal directions, cenote, well, nature or in those animals and plants which inhabit there in Maya. These Maya pagan deities provide them with a fundamental frame of cognition: space concept and time concept. Catholicism in Mani has been developed with this sort of religious consciousness.

This is relevant to the above-mentioned major traits underlying at the root of religion: surviving relics of remote antiquity. A complex of Catholicism and Maya tradition causes the realities of life filled with contradictions and irrationalities. The people of Mani live in these realities. A religio-cultural integration in Mani is very complicated but it has been maintained or developed by surviving ancient socio-cultural relics.

Catholicism in Mani should be analyzed taking into account the above-stated fact. In Mani the re-presentation of mythological facts of remote antiquity is observed. Mythological facts function as a model for understanding the realities of life in this world. The people of Mani understand the meanings of religious rites performed by Men and they participate in

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them. Moreover they understand the meanings of ancient Maya oral traditions and that they can work out the *re-presentation* of mythological facts of remote antiquity. From this it follows that they share *Men*’s prayers and religious acts and participate in them.

3) Communal Land (*tierras comunes*)

Each community in Maya had its own communal land (*tierras comunes*). The concept of communal land has existed in the substrata of Maya society. The public nature of communal land has been traditionally and consistently maintained or developed by Maya communities. The concept takes on great significance in terms of the above-mentioned major traits underlying at the root of religion: surviving relics of remote antiquity and public- or universal-mindedness. The communal land of *ejido* in Mani today should be studied from the historical perspective of communal land in Maya society.

(1) Communal Land (*tierras comunes*) of Maya Community *Ah-ob*

*Almehenob* was from the upper class of *Ah-ob* and lived in the core area of *Ah-ob* near the cenote (*actun*) or deep well. The center of Maya community includes the cenote as its constituent part, and *k’iwick* or center of Mani is inseparably associated with the cenote.

Each *Ah-ob* in Mani had its own communal land (*tierras comunes*). This type of land belonged to such people of the upper classes as *Halach Vinic*, *Vbatal Cah* and *Almehenob*. *Vbatal Cah*, for instance, was allotted 100, 200 or 300 mecates (one mecate is 20m × 20m). The cultivation of the land was a tribute to them.

(2) Communal land of *milpa* (*Milpas de comunidad*)

In Mani, there was another form of communal land (*milpas de comunidad*), where the cultivation was carried out for the whole community. All the crop from the land was stored in the granary. For a Maya married couple (*Hum Vinic*), 20 × 20 pies (feet) was allotted for sowing.

(3) Land for growing cacao (*Hoyas y cuevas de cacao*)

The third communal land in Mani was cultivated on condition that the person concerned got the right to use the land. Those who got the right of land use supported themselves on the crop from the land and had the duty to pay to the governor in kind. The land for growing cacao (*hoayas y cuevas de cacao*) was included in this form of land use. In some cases, a group
of 20 men worked together on this form of land. They could not afford any workers in his employ, and were paid each time by the land owner 20 cacao beans per 1 mecate of labour.

(4) Different types of communal lands of Maya village community

In addition to the above-mentioned three types of communal land, there were other communal lands: Upach Cahalob (the land of village community); Uxotol Upach Cacahal (the allotted land of property of village community); Tulacal Vtialil Ah Calkiniob (the whole property of Calkini people).

Thus the concept of communal land or the public nature of communal land has existed as socio-economic basis of their life in the substrata of Maya society. Typical cases of this form of communal land are Upach Cahalob (the land of village community) in ancient Maya and comunidad indigena (traditional communal land in Maya) in the colonial period. The right to use the land was the necessary legal requirement for the cultivation of this type of communal land.

Those who were entitled to cultivate the land had the duty to support themselves on the crop from the land and to pay to the governor in kind.

Ejido is a system of communal land the Revolution brought about. It is, in Mani, divided into 3H, 2H and 1H. Ejido is, in most cases, surrounded by ko’ot, stone low wall in Mani. milpas (maize farms) and parcelas are included in ejido. As has been shown, the concept of communal land or the public nature of communal land has been developed in Mani from generation to generation. The concept is concerned with the traditional Maya agriculture of milpa or cacao and with the right of land use.

Ejido is to be studied from the historical perspective of communal land in Mani. The concept of communal land or the public nature of communal land takes on great significance in terms of the above-mentioned major traits underlying at the root of religion: surviving relics of remote antiquity and public-or universal-mindedness. The communal land of ejido in Mani today should be studied from the historical perspective of communal land in Maya society.

2 Catholicism

1) Compadrazgo

Compadrazgo is a socially institutionalized ritual kinship originated in the Catholic teachings. This network of social relation can be analyzed from different angles but the
present author treats it from the above-mentioned major traits underlying at the root of religion: surviving relics of remote antiquity and public- or universal-mindedness.

In Mani *compadrazgo* is established on such occasions of contracting the main sacraments of the Catholic church as *ocja* (Maya baptism), baptism, confirmation, *primera comunión*, 15 year old ceremony and marriage. *Compadrazgo* is the most widespread intimate spiritual social relationship which extends from an individual or a family to a community or a society. A man or a woman is supposed to enter into this institutionalized network of social relationship of *compadrazgo*. By means of *compadrazgo* a ritual relationship is established between the person concerned and the godfather or godparent. This is *padrínazgo/madrínazgo* in the strict sense of the word. He or she establishes at least 10 social relationships in his or her life.

In *compadrazgo* the same is the case with his or her parents. The parents enter into another ritual relationship with the godfathers of their child. This is *compadrazgo* in the strict sense of the word. On the one hand at least 20 social relationships of this type are sustained throughout their life. On the other hand during their life stages the person concerned grows up to be the godfather for someone else. As a result *compadrazgo* is to develop into a many-sided complicated ritual and spiritual relationship.

The mean number of children per family in Mani is 6. Each of 6 children can establish 20 different *compadrazgo* relationships, though one and the same person could be the godfathers more than once. Moreover an inclination (about 69%) is observed to establish them with kinsmen including paternal sides as well as maternal ones. The necessary consequence is that the people of Mani live in such a great number of institutionalized social relationships. These *compadrazgo* relationships keep substantial meanings to their life, for *compadrazgo* social relationships function along the axis of respect and socioeconomic mutual support.

Moreover it may be noted from our analytical view-point that *compadrazgo* is of remote antiquity. It can be traced back to the 5th century.

*Compadrazgo* in principle extends from blood relationships to non-blood social relationships and it is believed to be a spiritual relationship in the next world, not one in this world. In this sense, *compadrazgo* relationship is of public- or universal-mindedness.

One of the vital functions of this ritual kinship is to initiate small children into a Catholic community and it is the duty of god parents to encourage their godchild (*ahijado*) to live a decent life.

The ritual kinship also functions as a supplementary social institution to nuclear families. It improves the tense relation between the family members and serves as a role model of catholic virtue. Family problems are reduced in extent and importance by the
ritually established authority which presents an ideal example to children.

Compadrazgo obviously derives from Catholicism and embodies Catholic teachings or virtues. As historical documents trace it back to the 5th century, compadrazgo is of remote antiquity. It is a concrete case in point that extremely old religio-cultural facts survive and serve as a role model throughout all the actual phases of human life. This is concerned with one of the above-mentioned major traits underlying at the root of religion: surviving relics of remote antiquity.

2) Virgin Mary with Christ-child in her left hand

From the perspective of everlasting perpetuity of religious symbols, Nobukiyo Nomura made a social and historical analysis of sacred pictures or images of Virgin Mary with Christ-child in her left hand 1).

Nomura’s critical studies include the following two relevant facts in the fundamental form of the sacred picture concerned. Firstly, Virgin Mary holds Christ-child in her left hand. Secondly, the Christ-child is giving the blessing with his right hand at the same time he has a Scroll in his left hand.

He pointed out that the form has survived in early Christian Catholic villages in Japan in the form of Nandogami (God of the inmost close), Goinkyosama (Great retired Master), Gozensama (His Excellency Lordship) who are venerated as God.

In some of early Christian Catholic villages in Japan, variants of the fundamental standard form have been produced in which Virgin Mary wears Kimono and is suckling Christ-child with her breast open at the same time she holds Christ-child in her right hand.

Nomura argued that this is a modification of the authentic standard, referring to the Byzantine custom of the Madonna (a counterpart of Virgin Mary) in the 6th century that the Madonna holds a holy child in her left hand and the child is blessing with his right hand at the same time he has a scroll in his left hand.

Christianity was introduced into Spain in the middle of the first century and the southern parts of the Iberia peninsula was under the control of the Eastern Roman Empire from the 6th century to the 7th century during which the above-mentioned Byzantine custom of the Madonna existed. In order to prove the existence of Byzantine custom of the Madonna, Nomura did an extensive fieldwork both in Italy and in Spain.

The fieldwork yielded the conclusion that the Byzantine custom is accepted as standard.
The standard form exists both in Japan and in Mexico where Christianity was introduced in the middle of the 16th century. Since then it has been observed though a few variants of it have also been produced in Japan. The religious symbol which was established and shared in the 6th century still exists not only in Japan but also in Mexico. The fundamental form of Virgin Mary is found in the Catholic Church in Mani. Foto 6 is one of the concrete examples of it.

Religion endures for centuries on the basis of extremely everlasting perpetuity of
religious symbols. Religious phenomena trace their origin back to primeval antiquity and religion preserves various relics of ancient days. This is a vital analytical perspective of a working hypothetical concept of religio-cultural integration.

3 Maya-Catholicism complex

In Maní the language of Maya is their mother tongue and the solid bedrock of their society on which Catholicism has been established since the 16th century. Certain Maya elements may still survive there on such a firm language basis in Maní. It is indispensable to take all these facts into consideration for more accurate analyses of Catholic culture integration of Lowland Maya communities in Mexico.

From the analytical viewpoint of the above-mentioned surviving religious relics of remote antiquity, Maya traditions still survive in an ancient concept of the center and the four quarters (the five cardinal points), communal land or the public nature of communal land, and mythical space or themes. In Maní they have preserved these old Maya traditions by means of Maya and Men.

1) k’iwich and centro (center)

The center of Maya community is called k’iwich which is a well-known fact in Maní. k’iwich consists of two essential parts: cenote (actun) and ceiba tree (yaxché). This holds true even today. Accordingly k’iwich appears with frequency in Maya oral traditions of cenotes and ceiba trees.

The ceiba trees in the center of Maní are tall and big. They stand face to face with a huge Catholic church in k’iwich. The trunk of about eighty-year-old ceiba tree is more than 3 to 5 meters, and some parts of its roots come out on the ground on which they rest awhile from time to time. When asked, they are willing to tell about xtabai, a long-haired female spirit associated with ceiba trees.

One day while working in milpa, I came up to a tree (shik’ushi čé) to find a lady combing her hair. First I took her to be the wife of owner of ranch but I came to believe she was xtabai, for she was beckoning to me. I made the sign of the cross against her, then she disappeared. She must be xtabai.
One day when a young boy went to a small village to dance with her beloved. He said to her, "Wait for me until I come to see you. We will go and sell lots of goods."

When he came to see her, her mother said to him, "What a fool! You just came to take her out." He answered, "How did I do that? I have just come here." "Yes, you did. A man just like you came and said to me that he would go with my daughter to sell the goods. My daughter said to him that he should go by himself and that she would stay here." Then the man said, "You must come with me." and he put her on the small table to take her out. The young man ran after him and was passing halfway to the village which was 1 legua (4km) away from there when he happened to find his beloved lying on her back on the ground. He was sure that it was caused by xtabai.

Xtabai was grasping her by the neck to kill her. She held up her cross against xtabai and xtabai let her go because xtabai was afraid of the cross. The young man came up to stab xtabai from behind by the neck. Xtabai fell down a little far away. When he turned round to her saying "Let’s go", he found a wound cut on her neck. They went to the village to sell the goods. And around at 7 o’clock next morning after their dance he went to the spot where he stabbed xtabai in the neck only to find there a piece of nopal, a kind of cactus, with a knife stabbed in.

In Mani the annual celebration of the patron saint, fiesta, is observed for 6 days starting on August 15. The festival includes both sacred and secular elements. To the latter the Maya traditional folk dance (jarana) and the bullfight (la corrida de toros) are indispensable. The bullfight is so popular with men and women of all ages in Mani that the bull ring is always filled to overflow. Some of Fathers (Padres) participate in it not as audience but as non-professional bullfighter (vaquero). The bullfight is one of the most common and fascinating topics in Mani. Whenever it comes up in conversation at table or at recess, it forms
the liveliest topic of discussion. For most of the people are very fond of the bullfight. Some
audiences get down into the bull ring to act as bullfighter for fun, which is always greeted
with approving cheer from the other audiences.

The bull ring of poles and vines is constructed in a circle by the people of Mani. The
bullfight in Mani does not start before this traditional custom is completed in the traditional
manner by a representative of festal organization. A ceiba tree is to be erected to music in the
center of the bull ring. He is not supposed to fail in his duty.

The ceiba tree is symbolic of an ancient Maya concept of the center and the four corners
(the five cardinal points).

A bull is slain everyday during the bullfight in Mani. The slaughter is done just by the
side of the bull ring and the meat is sold on the spot. A plenty of blood flows out from the
bull. The slaughterers keep on chopping the meat for sale. It seems to be providing a vivid
illustration of festal sacrificial offering which is performed in k'iwic with the ceiba trees and
cenotes. Its principal theme may be blood.

The ceiba tree is sacred (el árbol sagrado) to the people of Mani. Its root, trunk and height
symbolize the underground, the ground and the heaven respectively. Historical documents
show that certain Maya sacrificial ceremonies were carried out in the cenote by the side of the
Catholic church in the middle of the 16th century. The principal theme for the ceremonies was
blood. Sacrificial ceremonies are inherent and traditional in the Maya.

This assumes a noteworthy aspect of Maya-Catholicism complex in Mani. The Catholic
church now stands in the center of Mani to spread Catholic beliefs deep into the people's mind.
2）Traditional Maya cross (*cruz verde*)

On the pedestal at the west entrance of nave in the Catholic church in Mani stands a stone cross (*la cruz de piedra*) of 145.2 centimeter height. A stone statue on the cross is crucified as the Saviour (*el Salvador*) with his right hand giving the blessing. It is quite obvious to almost everyone in Mani that the statue seems to be made on the model of Jesus Christ and it (he) must be a Maya.

There is no firm historical evidence found for its place of enshrinement but a conjectural hypothesis is that it may have been kept somewhere in the convent church or in the chapel for native people (*capilla de indios*). The fact that a statue must be a Maya is the crux of the matter.

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*Foto 11*
The cross in Catholic church

*Foto 12*
The Maya cross in Mani

*Foto 13*
The Maya cross in Mani

*Foto 14*
The cross in the Maya ruins
(Madrid Codex 75-76)

*Foto 15*
The cross in the Maya ruins
(Cruz de Na-Chan-Caan)
On closer examination the stone cross proves not to be a traditional Maya cross (*cruz verde*). The Maya traditional cruciform is a wooden Grecian cross with two frames crossed in due proportion balance. The regular square form shows a feature of traditional Maya images concerning the five cardinal points and the corresponding five colors. On the east, west, south and north parts of the Maya wooden cross, the colors of red, black, yellow and white are arranged respectively, and the center of it is green. The concept of the five cardinal points, as has been described, lies at the root of Maya traditional cosmology and the Maya ritual of *Uayeb*.

The Maya cross is of remote antiquity. As Foto14 and 15 show, it takes its origin in the relics of ancient ages in Maya. From this it follows that the Maya may have found the Catholic cross similar to theirs or associated with their cross. So far no historical definite evidence of transformation processes has been obtained.

The Maya wooden cross available today in Mani is called green cross (*cruz verde*). It is made of wood, *yaxche*, the etymological meanings of which are *yax*—green or one and *che-tree*. Hence it is called green cross.

On the Maya wooden cross are painted small pictures in connection with the Crucifixion of Jesus Christ. INRI, the Holy Grail, a hammer, a flight of stairs, the whole face of Jesus Christ, another flight of stairs, a pair of pincers, a cock and the dice are painted as illustrated in the diagram 1. The Crucifixion of Jesus Christ is sometimes painted for the whole face of Jesus Christ or a piece of white cloth is put for it. As the case may be, nails are included in the paintings.

All these painted items are valuable symbols inseparably concerned with the sufferings of Jesus Christ on the cross (*la Pasion de Jesucristo*). INRI signifies *Jesus Nazarenus Rex Iudaeorum* (*Jesus Nazareno Rey de los Judíos*; Jesus of Nazareth King of the Jew). This was the indictment for the Crucifixion of Jesus Christ. The Holy Grail (*la copa sagrada*) is said to be used to receive blood drops of Jesus Christ at the Crucifixion and it was used by Jesus Christ at the Last Supper. Hammers, nails and pincers are basic necessities for the crucifixion and a flight of stairs (*la escalera*) are believed to be a symbol of a stairway reaching from earth to heaven (*Genesis 28:12* et al). A piece of white cloth is put as handkerchief of Veronica (*Nicodemus*) and a cock is associated with what Jesus Christ said to St. Peter (*Mark 14:66-72* et al.). Perhaps the dice may be related with the custom of lot drawing on the occasion of crucifixion (*John 19:24* et al.)

In Mani this type of Maya wooden cross is said to have been used when they preached Catholic teachings.
It may be that the Maya wooden cross with vital Catholic beliefs painted on was used for their religious education of the sufferings of Jesus Christ on the cross (la Pasión de Jesucristo) in the course of propagation of Catholicism. A possible meaningful correlation between the Maya stone cross in the nave and the Maya wooden cross still remains to be solved, but it is a straight fact that the former has been kept there in the nave of the Catholic church in Mani.

From the perspective of Maya-Catholicism complex, traditional social customs of cabeza de cochino (fiesta for Niño dios), jetzem (Maya baptism), pudz (Maya form of marriage), dias de muertos (Maya fiesta for the dead) are still reserved for a detailed description and clarification in another article.

II Analytical models for time perception

The concept of time is a complex of contradictions and illogicalities. In order to make a close and concrete analysis of the complex, several analytical or operational models are to be worked out. These analytical or operational models are the primary requirements for working
hypotheses. The existing complicated realities can be compared or corresponded with the components of working hypotheses. For the purpose of study the present author proposes four analytical models and working hypotheses.

1 Analytical models

1) Self-recognition

This model is developed out of those findings which Saint Augustine, Bin Kimura, Jun Miyake, Norinaga Motoori, Max Weber have ever made. This time model focuses on self-recognition by means of three time categories: past, present, and future.

(1) When most weight is put on the past, is dominant self-recognition of the present self conforming to tradition, incidents and historical facts.

![Diagram 1](image1)

- a is open to endless time or closed to limited time.
- b is open to endless time or closed to limited time.

(2) When most weight is put on the present, two time perception are hypothesized. The one is that time perception is not extended to the past or to the future. Hence, is dominant self-recognition of small time span restricted to the present. The other is that time perception extends to the past as well as to the future. Hence, is dominant self-recognition of wide time span extending to the past as well as to the future.

![Diagram 2](image2)

- a is open to endless time or closed to limited time.
- b is open to endless time or closed to limited time.

(3) When most weight is put on the future, is dominant self-recognition of the present self conforming to whatever may take place in future. Time is not infinite but exhaustible, so the self-recognition is kept under extreme tension.
Putting together all the above-mentioned (1)(2)(3) hypotheses, the following revised hypothesis is proposed for a more close and specific study of self-recognition by means of time perception.

Time perception extends to the past as well as to the future. In this case, time perception extends more in the past than in the future or more in the future than in the past. For religious phenomena include historical facts of remote antiquity and survive them for a long time.

2）*Re*=*presentation* of mythological facts

The model is developed out of those findings which Lévi-Strauss and Norinaga Motoori have ever made. This time model focuses on the *re*-*presentation* of mythological facts of remote antiquity. Mythological facts function as a model for understanding what is going on in this world. Such specific descriptions of mythological facts as victories over wild beasts or overcomings of obstacles by heroes in the myth act as effective method for relieving women from their difficult delivery. The mythical themes developed by the various symbols, fantastic monsters and dangerous animals provide those who believe in the myth with a *language* by means of which they reconstruct real experiences. These themes can make them interpret various contradictions and irrationalities of social inequality. The social relationship between king and subject in the myth can provoke a corresponding counterpart of social relationship between parent and child.

Mythical time can be defined as major time and worldly time as minor time. The former can recreate and represent real experiences in the latter. The facts in the former can render acceptable to the mind existing various realities in the latter.
3) *Re-presentation* and revitalization of major time in minor time

Major time is repeated and revitalized in minor time. This is produced by ritual processes. Ritual celebration of ancestor, rituals for rainfall and rites of passage are represented to revitalize the elements of remote antiquity in each society or culture, and lead the community members to recollect them. The members dispersed throughout the community in minor time are integrated and reunited by the ritual processes introduced in major time. The model is worked out with several modifications of E.Leach’s diagram.\(^1\)

![Diagram](image)

4) Coherent cognitive consistency of time perception

When these three models for analyzing time perception are applied to an analysis of religious phenomena, time perception is to be analyzed in terms of religious doctrine and irrationality. For pressures towards coherent cognitive consistency and a socially shared set of meanings of irrational aspects of life are inherent in religion.

In this case religious doctrine or teachings enable them to express and represent self-recognition, *re-presentation* of mythological facts of remote antiquity, *re-presentation* and reintegration of major time in minor time, etc.
Man ate the forbidden fruit against God’s order, for which man is wicked ethically and punished. The original sin in Christianity proceeds to describe the whole history of mankind as process of gradual degradation. Consequently all aspects of human life in this world are to be methodical in conformity to God-ordained activities. Ethical conducts blessed by God may be irrational or absurd in terms of existing realities in this world. But religion leads the latter to be systematically unified through consciousness of a relation of this life toward God.

2 Working hypotheses

Each of four analytical models requires working hypotheses for more concrete and scientific studies of time perception. Based upon four analytical models, religious persons show a stronger tendency to the following working hypotheses than less-religious persons.

1) Self-recognition is done by the development of time perception of past and future. Consequently their time perception range is more extended and widespread.

(1) Time perception includes the beginning or the end of the world.
(2) Self-recognition is associated with the birth or death of God or sacred beings.
(3) Self-recognition or ethically unified attitude toward God in this world is associated with the tradition, incidents and historical facts in the past or the end of the world in future.

2) Mythological facts of remote antiquity are represented to provide legitimation for social constructions of reality.

(1) Time perception is described in connection with the divine creation, the end of the world, the resurrection of divine beings, the incarnation and the like.
(2) The personified characters in the myth are identified with the existing ancestor related by blood.
(3) Real experiences or existing social inequalities in this world are interpreted by means of such mythological facts or themes as various types of social relationships, overcomings of obstacles and troubling contradictions.

3) Time perception or self-recognition is achieved in terms of major time and minor time. Hence a tendency to positive acceptance of rituals or festivals is expected in this case.

(1) Positive attitudes towards festivals or annual celebrations and active participation in such social activities are dominant.
   ① Mass (re-presentation of Jesus Christ)
   ② Christmas (re-presentation of Jesus Christ)
   ③ Sunday (observation of a Sabbath day)
   ④ Months for Virgin Mary (re-presentation of Virgin Mary)
   ⑤ Day of the dead (re-presentation of the dead)

(2) Better comprehension and interpretation of symbols in close association with social constructions of reality is dominant.
   ① Cross (Cruz)
   ② Sacred Images or Icons
   ③ Bread and Wine
   ④ Holy Water

(3) A higher value is set on major time than on minor time.
   ① A high value on rituals or festivals
   ② An active participation in baptism
   ③ A high value on Mass
   ④ Gratitude to God for dawn or sunset.
   ⑤ Sustenance of hope in minor time.

4) Time perception or self-recognition is achieved by the personal inner mental processes of inner adjustment mechanism.
   Hence time perception, self-recognition, and adjustments in frustrating situations are expected to be based on more inner factors than outward ones.

Time perception is to be analyzed in terms of religious doctrine and irrationality. In this case religious doctrine or teachings enable them to express and represent self-recognition, re-presentation of mythological facts of remote antiquity, re-presentation and reintegration
of major time in minor time.

The analysis and its results by means of the above-mentioned analytical hypotheses and working hypotheses are to be treated in another paper.

Conclusions —Maya-Catholicism complex—

Mani is situated in Lowland Maya. Maya is s spoken language in their everyday life. In school and Catholic church Spanish is more frequently used. In contrast, Zoroastrian Parsis who migrated from ancient Iran to India have maintained their Zoroastrianism not by means of their mother tongue Avesta or Pahlavi but by means of Gujarati.

In Mani the language of Maya is their mother tongue and the solid bedrock of their society on which Catholicism has been established. It is the most useful means of mutual communication and that it provides existing complicated connotative or denotative ideas about nature, human beings, society and culture. Certain Maya elements may still survive there on such a firm language basis in Mani.

In actuality there are found different degrees of comprehension of Maya between generations in Mani. However it is indispensable to take all these above-mentioned facts into consideration for more accurate analysis of Catholic culture integration of Lowland Maya communities in Mexico.

From the analytical viewpoint of the above-mentioned surviving religious relics of remote antiquity, an ancient concept of the center and the four quarters (the five cardinal points) is very important. Archaeological and historical empirical findings show that the concept is of remote antiquity. The concept has been handed down to the present.

Men (Maya medicine man=priest) keeps Maya traditions. The concept of five cardinal points is transmitted with great exactitude especially in his prayers and sak’ap. The people of Mani understand the meanings of religious rites performed by Men and they offer sak’ap just in the same way as Men does. Thus they share ancient Maya traditions and participate in them.

This presents a great contrast to the way Zoroastrian Parsis follow. Though they have preserved very old Persian traditions, the Parsis laity are not able to comprehend the prayers or the meanings of religious acts by Zoroastrian priests. Very few of them know each meaning of Avesta or Pahlavi prayer. The Parsis laity change every sound and letter of these Avesta or Pahlavi prayers into that of Gujarati for their everyday use. They entrust it with the Parsis priests to understand and preserve the meanings of Zoroastrian prayers or ritual

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In Mani the re-presentation of mythological facts of remote antiquity is observed. Mythological facts function as a model for understanding the realities of life in this world. The people of Mani understand the meanings of religious rites performed by Men and they participate in them. Moreover they understand the meanings of ancient Maya oral traditions and that they can work out the re-presentation of mythological facts of remote antiquity. From this it follows that they share Men's prayers and religious acts and participate in them.

Maya pagan deities including Bacab and Ch'ac are believed to dwell in the center, four cardinal directions, cenote, well, nature or in those animals and plants which inhabit therein Maya.

For instance, yumtz'ilob, Maya pagan deities, are closely associated with natural elements (wood, mountain, bush, rain, water, wind and the like), animals (deer, bee, horse, dog and the rest), village, cenote (actun), well, etc. These Maya deities are believed to dwell in the east sky to protect the cardinal four corners of heaven, sky and cloud. They are narrated that way in Maya oral traditions.

In Mani they offer sak'ap or balche, traditional Maya food prepared from corn, to yumtz'ilob who are believed to descend from the sky to take them. The consecrated offerings are not raw, but are all boiled or roasted in the Maya traditional way. It is widely believed in Mani that yumtz'ilob will not punish them with disease by means of evil wind (ik) as long as they offer the prayers and food properly following the Maya traditional way. Nor will they do damage to their plowed fields or domestic animals.

These Maya pagan deities provide them with a fundamental frame of cognition: space concept and time concept. Catholicism in Mani has been developed with this sort of religious consciousness.

The concept of communal land or the public nature of communal land has existed as socio-economic basis of their life in the substrata of Maya society. The concept is concerned with traditional Maya agriculture of milpa or cacao and with the right of land use. Typical cases of this form of communal land are Upach Cahalob (the land of village community) in ancient Maya, comunidad indígena (traditional communal land in Maya) in the colonial period.

The right to use the land was the necessary legal requirement for the cultivation of this type of communal land. Ejido is to be studied from the historical perspective of communal
land in Mani

*Compadrazgo*, a socially institutionalized ritual kinship, obviously derives from Catholicism and embodies Catholic teachings. It is a concrete case in point that extremely old religio-cultural facts survive and serve as a role model throughout all the actual phases of human life.

In Mani *compadrazgo* is established on such occasions of contracting the main sacraments of the Catholic church as *ocja* (Mayan baptism), baptism, confirmation, *primera comunión*, 15 year old ceremony and marriage. *Compadrazgo* is the most widespread intimate spiritual social relationship which extends from an individual or a family to a community or a society. A man or a woman is supposed to enter into this institutionalized network of social relationship of *compadrazgo*. By means of *compadrazgo* a ritual relationship is established between the person concerned and the godfather or godparent. He or she establishes at least 10 social relationships in his or her life.

In *compadrazgo* the same is the case with his or her parents. The parents enter into another ritual relationship with the godfathers of their child. On the one hand at least 20 social relationships of this type are sustained throughout their life. On the other hand during their life stages the person concerned grows up to be the godfather for someone else. As a result *compadrazgo* is to develop into a many-sided complicated ritual and spiritual relationship. *Compadrazgo* in principle extends from blood relationships to non-blood social relationships and it is believed to be a spiritual relationship in the next world, not one in this world.

The mean number of children per family in Mani is 6. Each of 6 children can establish 20 different *compadrazgo* relationships, though one and the same person could be the godfathers more than once. Moreover an inclination (about 69%) is observed to establish them with kinsmen including paternal sides as well as maternal ones.

The necessary consequence is that the people of Mani live in such a great number of institutionalized social relationships. These *compadrazgo* relationships keep substantial meanings to their life, for *compadrazgo* social relationships function along the axis of respect and socioeconomic mutual support. Moreover it may be noted from our analytical view-point that *compadrazgo* is of remote antiquity. It can be traced back to about 5th century.

*Compadrazgo* obviously derives from Catholicism and embodies Catholic teachings or virtues. As historical documents trace it back to the 5th century, *compadrazgo* is of remote antiquity. It is a concrete case in point that extremely old religio-cultural facts survive and
serve as a role model throughout all the actual phases of human life. This is concerned with the above-mentioned major traits underlying at the root of religion: surviving relics of remote antiquity.

In Mani the language of Maya is their mother tongue and the solid bedrock of their society on which Catholicism has been established since the 16th century. Certain Maya elements may still survive there on such a firm language basis in Mani. It is indispensable to take all these facts into consideration for more accurate analyses of Catholic culture integration of Lowland Maya communities in Mexico.

From the analytical viewpoint of the above-mentioned surviving religious relics of remote antiquity, Maya traditions still survive in an ancient concept of the center and the four quarters (the five cardinal points), communal land or the public nature of communal land, and mythical space or themes. In Mani they have preserved these old Maya traditions by means of Maya and Men.

The center of Maya community is called k'īwic which is a well-known fact in Mani. k'īwic consists of two essential parts: cenote (actun) and ceiba tree (yaxché). This holds true even today. Accordingly k'īwic appears with frequency in Maya oral traditions of cenotes and ceiba trees.

In Mani the annual celebration of the patron saint, fiesta, is observed for 6 days starting on August 15. The festival includes both sacred and secular elements. To the latter the Maya traditional folk dance (jarana) and the bullfight (la corrida de toros) are indispensable.

The bull ring of poles and vines is constructed in a circle by the people of Mani. A ceiba tree is to be erected to music in the center of the bull ring. The ceiba tree is symbolic of an ancient Maya concept of the center and the four corners (the five cardinal points). The ceiba tree is sacred (el árbol sagrado) to the people of Mani.

On the pedestal at the west entrance of nave in the Catholic church stands a stone cross (la cruz de piedra) of 145.2 centimeter height. A stone statue on the cross is crucified as the Saviour (el Salvador) with his right hand giving the blessing.

The Maya traditional cruciform is a wooden Grecian cross with two frames crossed regular square in due proportion balance. The regular square form shows a feature of traditional Maya images concerning the five cardinal points and the corresponding five colors. On the east, west, south and north parts of the Maya wooden cross, the colors of red,
black, yellow and white are arranged respectively, and the center of it is green. The concept of
the five cardinal points, as has been described, lies at the root of Maya traditional cosmology
and the Maya ritual of Uayeb.

The Maya cross is of remote antiquity. As the archaeological or historical documents show,
it takes its origin in the relics of ancient ages in Maya. The Maya wooden cross available today
in Mani is called green cross (cruz verde). It is made of wood, yaxche, the etymological meanings
of which are yax- green or one and che- tree. Hence it is called green cross.

On the Maya wooden cross are painted small pictures in connection with the Crucifixion
of Jesus Christ. INRI, the Holy Grail, a hammer, a flight of stairs, the whole face of Jesus
Christ, another flight of stairs, a pair of pincers, a cock and the dice are painted. The
Crucifixion of Jesus Christ is sometimes painted for the whole face of Jesus Christ or a piece
of white cloth is put for it. As the case may be, nails are included in the paintings.

All these painted items are valuable symbols inseparably concerned with the sufferings of
Jesus Christ on the cross (la Pasión de Jesucristo). In Mani this type of Maya wooden cross is
said to have been used when they preached Catholic teachings. It may be that the Maya
wooden cross with vital Catholic beliefs painted on was used for their religious education of
the sufferings of Jesus Christ on the cross (la Pasión de Jesucristo) in the course of
propagation of Catholicism.

Nomura's critical studies include the following two relevant facts in the fundamental
form of the sacred picture of Virgin Mary with Christ-child in her left hand. Firstly, Virgin
Mary holds infant Jesus in her left hand. Secondly, the infant Jesus is giving the blessing
with his right hand at the same time he has a Scroll in his left hand.

He pointed out that the form has survived in early Christian Catholic villages in Japan in
the form of Nandogami (God of the inmost close), Goinkyosama (Great retired Master),
Gozensama (His Excellency Lordship) who are venerated as God.

In some of early Christian Catholic villages in Japan, variants of the fundamental
standard form have been produced in which Virgin Mary wears Kimono and is suckling
infant Jesus with her breast open at the same time she holds infant Jesus in her right hand.

The standard form exists both in Japan and in Mexico where Christianity was introduced
in the middle of the 16th century. Since then it has been observed though a few variants of it
have also been produced in Japan. The religious symbol which was established and shared in
the 6th century still exists not only in Japan but also in Mexico. The fundamental form of
Virgin Mary with Christ-child in her left hand is found in the Catholic Church in Mani.
Religion endures for centuries on the basis of extremely everlasting perpetuity of religious symbols. Religious phenomena trace their origin back to primeval antiquity and religion preserves various relics of ancient days. This is a vital analytical perspective of a working hypothetical concept of religio-cultural integration.

Footnotes

1) Hideo Kishimoto 1961 *Religious Studies*, p.17

Religion is cultural phenomena which clarifies the ultimate meaning of every aspect of human life and is concerned with the ultimate solution of any personal or social problems. In most cases it involves a notion of deity or a sense of sacredness in conformity to their activities.

2) The main references relevant to the subject under discussion are as follows:
Max Weber 1920 *Gesammelte Aufsätze zur Religionssoziologie. II* ss.401-442.

3) The following books are most instructive and helpful to discuss the intensive empirical research.
E.E.Evans-Pritchard 1962 *Social Anthropology and Other Essays*, pp.1-129
R.K.Merton 1949 Social *Theory and Social Structure*, pp.39-72

4) Facts relevant to the subject under discussion are dealt with accurately in the following articles.
Harukazu Nakabeppu
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1987 *Men (Medicine Man=Priest) and Ch’achac (ritual for rain) in a Maya-yucatecan Village, Maní. Study of Catholic Culture in the South Mexican Villages*, pp.225-254
1991 *Images of Saints and Diseases in a Mayayucatecan Catholic Community, Maní. Bulletin of the Institute of Comparative Studies of International Cultures and*
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1993 A Marriage form (pudz) in a Maya Village, Mani.
1995 Ritual Kinship (compadrazgo and padrinaszgo) in a Maya-yucatecan Catholic Community, Mani. Chiikisogokkenkyu Vol.5 pp.53-64
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2002 Ritual Kinship and ejido in a Mayanocatecan Catholic Community, Mani.
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2008 Some Aspects of Family Structure of a Mayayucatecan Catholic Community, Mani.
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2009 Some Aspects of Social Structure of a Mayayucatecan Catholic Community, Mani.
Bulletin of Miyazaki Municipal University Faculty of Humanities. Vol.17 No.1 pp.173-190
2010 Religious Attitudes Towards Altars and Images in a Maya-yucatecan Catholic
Community, Mani.

Bulletin of Miyazaki Municipal University Faculty of Humanities. Vol.18 No.1
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2011 An Experimental Method for the Study of Time Perception at the Individual Level —with Reference to a Case Study in a Catholic Community Mani, Yucatán, Mexico
Bulletin of Miyazaki Municipal University Faculty of Humanities. Vol.19 No.1
pp.107-124

5) Facts relevant to the subject under discussion are dealt with accurately in the following articles.

Harukazu Nakabeppu

2007 A Study of Traditions and Changes of Sacred Fires and Social Structure in Zoroastrian Parsis Community in Navsari, Gujarat, India.
Grant-In-Aid For Scientific Research(B) p.1-113

2006 A Study of Participation in Religious Symbols and Religious Meanings —with Reference to Sacred Fires of the Zoroastrian Parsis in Navsari, India—
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pp.283-308

2006 An Introductory Study of Personality Structure of Religious Persons —with Reference to Zoroastrian Parsis in Navsari, Gujarat, India—
Bulletin of Miyazaki Municipal University Faculty of Humanities. Vol.14 No.1
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pp.163-188

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Nishinihon Shukyogakuzasshi vol.18 pp.13-25

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Nishinihon Shukyogakuzasshi vol.17 pp.1-15

Consistency and Changes in Zoroastrian Parsis in India.
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pp.229-246

Druṣṭ ṣ yā nasuṣ in Zoroastrianism. Tetsugaku Nenpo vol.44 pp.21-37

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Ceremonies in Navsari. Tetsugaku Nenpo vol.43 pp.91-109
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1983 The Sacred Fires and Religiou Rites in Zoroastrian Māčī and Jašan
Shukyo Kenkyu vol.257 pp.93-96
1983 Sacred Fires in Zoroastrian Parsis —with Reference to Sacred Fires in Navsari—
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