

## ABSTRACT

### The Ecology of the Sabbath

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There is an ecological web of interrelationships within the Sabbath, consisting of God, man, the land, animals, and time. This Ecology of the Sabbath is beautifully intricate, and holds wisdom regarding man's role within the ecology. This thesis dives into the Sabbath in the Jewish tradition, largely through the perspective of Abraham Joshua Heschel and the Old Testament, and how the Sabbath was fulfilled with the coming of Christ in the New Testament. Furthermore, there is analysis of multiple modern environmental practices in the form of article review, with discussion on how these practices are inherently connected to the principles of the Sabbath, and how the benefits are representative of the healthy relationship that is present. I see a gap in modern Christian's relationship with the Sabbath and the environment, but understanding our role within the ecologic web of the Sabbath can assist in a change of perspective – toward a more Biblical relationship with the rest of Creation.

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THE ECOLOGY OF THE SABBATH

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Honors Program

By

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To my Lord and Savior, Jesus Christ.

To my mother and father, thank you for always supporting me.

To Emma.

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To Pinewood and For Keeps, thank you for fueling me.

## CHAPTER ONE

### Introduction

#### *The Ecology of the Sabbath*

There is a web of interrelationships between the entities that are present within the Sabbath. These entities consist of God, humans, the rest of physical creation – consisting of the land and animals – and time. The interrelationships between each of these are what make up the Sabbath. This Ecology of the Sabbath, and what it means for us as modern Christians, is the topic of focus for this thesis project. To fully understand the complexities that are present within the Ecology, there is background information, regarding the Sabbath more broadly, that is necessary to discuss. Following this background, I will discuss scientific articles and display how they relate to this thesis. Finally, I will conclude, as well as offer ideas of how modern Christians can apply this topic to our lives. This broad organization is enhanced by the more specific methodology of this project, which will provide information regarding how each chapter was approached.

#### *The Methodology*

Detailing the general methodology, I employed for each chapter allows for a better understanding of how the thesis is set up, and how it is cohesive. Furthermore, this will assist in providing a general outline of the thesis. I will approach this section in a chapter-by-chapter format.

For Chapter 2, I primarily focus on Abraham Joshua Heschel's *The Sabbath: Its Meaning for Modern Man*. This reading will provide one perspective of the Jewish tradition, and the values within it that revolve around the Sabbath. This lens is relatively narrow when it comes to the whole of the Jewish faith, but the book's focus on the Sabbath allows for me to engage with the Jewish perspective of the Sabbath. In addition to Heschel's work, I will utilize portions of the Torah (the Pentateuch), which consists of the books of Genesis, Exodus, Leviticus, Numbers, and Deuteronomy. Employing the Old Testament and looking at God's commands concerning the Sabbath day will assist in strengthening the 'background' information of the Sabbath, and seeing the Jewish perspective further.

In Chapter 3, I focus on the New Testament with an emphasis on the Gospels. The methodology of this chapter is simply this: diving into the New Testament to see how Jesus Christ interacted with the Sabbath. Furthermore, there is inclusion of the thoughts and writings of theologians, such as Tony Costa and Norman Wirzba.

Chapter 4 will provide article review and analysis. I did not conduct any experiments for myself for this project, so I employ the use of databases such as Scopus and Google Scholar to find research articles. The finding of these articles is assisted by keyword search, with keywords being specific to the subtopic at hand (i.e. keyword of "crop rotation" for subsection within the Rotational Systems topic). I engage with these sources, connecting the scientifically backed studies and benefits that these systems have to the ecology of the Sabbath. Provision of examples is a focus in this chapter, and these are separated into two large groupings, of rotational systems and farming practices. Within these groupings are subsections, containing a system or practice that is within the

bounds of the grouping. Scientific articles are the key focus in this chapter, but I will also engage with Robin Wall Kimmerer's *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*. More specifically, I will discuss the chapter "The Three Sisters" to obtain another perspective, and a further example.

In Chapter 5, the methodology that takes place is primarily made up by my making connections and providing conclusions on the thesis. I discuss John Mark Comer's *Garden City*, in which Comer's articulation of thoughts allows for a more coherent and fuller conclusion of my thesis. Here, the methodology in this thesis is by mainly engaging with the Bible, as well as novels and scientific articles that relate to the project.

### *A Brief Preview*

In this section, I provide a general outline of the thesis project, with more detail than the prior section of methodology. The thesis begins with discussion regarding the Jewish and Christian perspectives regarding Sabbath. In Chapter 2, the Jewish view of the Sabbath is detailed, and is largely revolving around the lens of Heschel's *The Sabbath*. In addition, I engage with thoughts from theologians like Costa, as well as looking at the Old Testament to further display the Jewish perspective. This allows for some background to be laid out, and God's commands that are centered on the Sabbath provide further insight on the Jewish tradition. This sets up the Ecology of the Sabbath, which is essentially the interrelationships between the entities that are interacting within the Sabbath. The initial dive into Jewish thought assists in setting the stage for the next chapter, where the focus shifts towards that of a Christian perspective.



Chapter 3 transitions to a focus on the New Testament, and away from the Old. The chapter regards Jesus Christ's teachings and interactions on the Sabbath as highly valuable for this insight. In this, seeing how Christ has fulfilled the Sabbath allows for further understanding of the Ecology of the Sabbath, and how Christ has advanced it. In engaging with how Christ interacted with the Sabbath, there is more comprehension of the Christian perspective of the Sabbath. By discussing each of these religious perspectives, there is a more holistic grasp on what the Ecology of the Sabbath truly is, and how each of the entities interact with one another. These chapters cover the religious views on the Sabbath itself, and 'introduce' the interactions between man and the rest of Creation, where there are the Old Testament commandments of how we ought to relate to the land and animals on Sabbath, and, furthermore, Christ's teachings on the subject. This leads to Chapter 4.

In Chapter 4, there is a large step taken back, where the environmental implications of the Ecology of the Sabbath are detailed and discussed. Within this chapter, I will display how the Lord is evident within some sustainable environmental practices, and how the principles of the Sabbath are not only present in these practices, but are ultimately beneficial to the systems they are in. Along with this, it will be seen how the Ecology of the Sabbath is present within these systems – partially because of the relationship that is present with the Sabbatical ideals. This chapter is broken into two larger sections of rotational practices and other farming techniques, with each having subsections. Chapter 4 provides these scientific case-study examples so that there is evidence of the benefits of rest, and that there is an inherent connection to the Sabbath already within these natural states. Also within this chapter lies how *dominion* is a vital

aspect to modern environmental practices, and how these systems demonstrate *rest*. These studies display how a better understanding of our role within the Ecology of the Sabbath, as partners with God, is truly benefitting to the rest of the Lord's creation.

To conclude, Chapter 5 will integrate some key findings from this project with John Mark Comer's *Garden City*. Comer provides discussion on this topic, as he discusses the how modern Christians can better engage with the Sabbath. Further, he describes how we can engage with the rhythms that God created for us, in order to get closer to God. Along with this, there are some limitations within this project that are needed to be addressed. All in all, Chapter 5 is relating the information within this thesis to how we as modern Christians can grow from this, from how we can better engage with the Sabbath to how we may better understand our position in the Ecology of the Sabbath.

### *The Reason*

Here, I will elaborate more specifically on the purpose of this thesis, including the original inspirations of the project, and what I hope to accomplish by it.

Nearly for as long as I can remember, I have always felt the presence of God when I am in nature. This garnered more curiosity regarding the environment, as well as my love for it in general, and this led to my choosing Environmental Science as my major. In my courses at Baylor, I have learned further about the intricacies and interaction that are present in the environment, and this has only increased my love for the Lord and His creation. To me, the detail within processes and in Creation reflects the beauty of the Creator, and it is such a blessing to be able to see this beauty more in depth.

For an Honors Program class requirement, I read Robin Wall Kimmerer's *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*. It was because of this book that a more specific inspiration of the thesis formed, as the blend of science and faith was displayed beautifully by Kimmerer. The inclusion of her faith and the intricacies of the environment started the train of thought – to look at Christianity and the environment, in some form or fashion. In the reading of this novel, I interacted with Dr. Whelan for the first time, and fairly soon afterwards, asked that he would be my thesis project advisor, which I am extremely grateful for. Dr. Whelan encouraged me to take his course Environmental Ethics, and I gladly obliged. The course assisted in specifying what I wanted to discuss in my thesis, and, though they are not mentioned in the project, learning about St. Francis and St. Clare of Assisi in the class was instrumental in narrowing my focus to discussing the Ecology of the Sabbath.

Furthermore, I read John Mark Comer's *Garden City: Its Meaning for Modern Man*, and the wisdom that Comer provides further inspired me in my thesis – and specifically was vital to how I was to offer conclusions, and see how modern Christians could potentially learn from this topic.

Comer's work brings me back to the original purpose for my thesis, which was to not only discuss the beauty that exists in nature as a reflection of the Lord, but also to discuss a rather large gap that exists. I see a gap that is pervasive with modern Christians, and how we interact with the Sabbath and the rest of Creation. Here, a goal of mine is to display that this is a miss by modern Christians, and that we are not relating to the Sabbath and to Creation in the way that we should, in the way that we are *called to*.

## CHAPTER TWO

### The Sabbath in the Old Testament

#### *Introduction*

The Sabbath, in the relative sense of the term, is a time period of religious observance. The Sabbath though, has much deeper and intricate meanings, and it is key to explore the aspects of the Sabbath in its historical lens to more fully understand it, as well as our relationship to God through it. Even though it is a ritual, it is not simply a ritual, just as it is not simply a day of rest, or a period of religious observance.

The Sabbath is created and blessed in God's creation of the world, where God rested, blessed, and hallowed the seventh day<sup>1</sup>.

*And on the seventh day God finished his work that he had done, and he rested on the seventh day from all his work that he had done. So God blessed the seventh day and made it holy, because on it God rested from all his work that he had done in creation. (Genesis 2:2-3)*

This is continued in the Decalogue, given to humankind by God, where the Sabbath is the fourth commandment, serving not only as the only ritual that is in the Decalogue but also the bridge between the commandments that were between God and humans and those that were between humans and neighbors<sup>2</sup>. This basic understanding of what the Sabbath *is* is needed to further understand the ongoing relationships that are present within the Sabbath. Furthermore, discussion on the Sabbath in the Jewish tradition will allow for a better basis to be formed regarding the ongoing relationships

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<sup>1</sup> Heschel, *The Sabbath*.

<sup>2</sup> Gordis, "The Sabbath - Cornerstone and Capstone of Jewish Life."

within the Sabbath, as well as what humans are called to do, and *be*, within the Sabbath. This understanding of the Sabbath in the Jewish tradition will take place with engaging in Abraham Joshua Heschel's *The Sabbath*, as well as discussing some places in the Old Testament where there are commands regarding the Sabbath.

### *Heschel's The Sabbath*

In this section, I will obtain more insight on the Sabbath in the Jewish perspective by engaging with Heschel's work. Early into the book, Heschel says that Judaism is "a religion of time...[which] teaches us to be attached to holiness in time."<sup>3</sup> Within this, Heschel states that "the likeness of God can be found in time, which is eternity in disguise."<sup>4</sup> By defining Judaism as a religion of time, and by displaying that God is within time, an importance on the relationship between man and time is stressed. Along with this, he makes the claim that "[one] would expect that...God would create a holy place, a holy mountain or a holy spring...yet it seems as if to the Bible it is holiness in time, the Sabbath."<sup>5</sup> This further reflects the depth of meaning within the Sabbath in the Jewish tradition. This shows that, in the Jewish perspective, there is a great focus on the idea of time. Time is important because of this, that God's holy place is *time*, and that the Sabbath is a period in which there can be engagement with the Lord.

Heschel provides an interesting perspective on the Sabbath; in that it is "the most precious present humankind has received from the treasure house of God. All week we think: the spirit is too far away, and we succumb to spiritual absenteeism, or at best we

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<sup>3</sup> Heschel, *The Sabbath*, 8.

<sup>4</sup> Ibid, 54.

<sup>5</sup> Ibid, 9.

pray: Send us a little of Thy spirit. On the Sabbath the spirit stands and pleads: Accept all excellence from me.”<sup>6</sup> This provides some interesting insight on the Jewish perspective of the Sabbath, where it is a holy gift given by God, so that there is a means by which the spirit of God may be accessed. Here, Heschel asks the question of “What would the world be without Sabbath?”<sup>7</sup> This raises the point that the Sabbath is fulfilling part of the experience of humankind, and is such an integral part of religion that without the Sabbath, the world would be lacking and altogether incomplete. Heschel furthers this point, by mentioning that “Obviously, the ancient rabbis concluded, there was an act of creation on the seventh day. Just as heaven and earth were created in six days, *menuha* (the Hebrew word for “rest”) was created on the Sabbath.”<sup>8</sup> Here, he is displaying that not only is God providing a means to draw closer to Him, but also that the Sabbath is a part of His creation.

Heschel describes that the Sabbath is “given unto you, not you unto the Sabbath”, showing that humankind is a recipient of the gift that is the Sabbath.<sup>9</sup> This is continued with the Sabbath’s purpose, as intended by God, where it “was given to use by God for joy, for delight, for rest, and should not be marred by worry or grief”, where, as a gift, we as humans need to place value in the Sabbath, respecting and following it.<sup>10</sup>

Continuing on, Heschel describes a more intricate portion of what the Sabbath is in Judaism, where there is a focus on the relationship between humankind and the

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<sup>6</sup> Ibid, 18.

<sup>7</sup> Ibid, 16.

<sup>8</sup> Ibid, 22.

<sup>9</sup> Ibid, 17.

<sup>10</sup> Ibid, 30.

Sabbath. Here, Heschel displays that there exists a “destiny” to be the bridegroom of the Sabbath, where the commandment regarding the Sabbath is commanding Israelites to “espouse the seventh day.”<sup>11</sup> This is elaborated upon, where there is continuous discussion on how the Sabbath is the bride—or, at least, *like* a bride—as well as how the very celebration of the Sabbath is “like a wedding.”<sup>12</sup>

This idea is continued, where not only is the Sabbath the bride but also is a queen, and this all is “not a personification of the Sabbath but an exemplification of a divine attribute, an illustration of God’s need for human love; it does not represent a substance but the presence of God, His relationship to man.”<sup>13</sup> This displays a unique idea in Judaism, where there not only exists a call to keep the Sabbath, but there is also a deeper religious connection between God and man *because of* and *through* the Sabbath. This idea is furthered with Heschel writing that “The Sabbath is meaningful to God, for without it there would be no holiness in our world of time.”<sup>14</sup> This continues the point that one of the main points of holiness, and one of the largest connections between God and man, is within the Sabbath.

This, along with the fact that the Sabbath has been “longing” for humans since the beginning of time, emphasize how God has set apart a time—a holy ‘place’ on earth—that we are able to be connected with Him.<sup>15</sup> The illustration that Heschel sets before us, that

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<sup>11</sup> Ibid, 51–52.

<sup>12</sup> Ibid, 54.

<sup>13</sup> Ibid, 60.

<sup>14</sup> Ibid, 54.

<sup>15</sup> Ibid, 53.

the Sabbath is like a bride and is absolutely necessary for the world to have and to follow, allows for further understanding in respect to what the Sabbath *is* to Judaism.

Heschel provides a definition of what the Sabbath is, in that it is “Spirit in the form of time.”<sup>16</sup> This seemingly simple definition holds great depth and reveals how God is accessible to humans through the time of rest that He gifted us. He elaborates on this idea, describing further what the Sabbath is with that it “is an example of the world to come” in that we will be connected with God, being enveloped by Spirit as we are surrounded and within time.<sup>17</sup> This idea is continued, where Heschel describes that, according to the Talmud, the Sabbath is “me’en ‘olam ha-ba,” which essentially is like eternity or the world to come.<sup>18</sup> On the Sabbath, we are given an opportunity to engage with the Lord through His creation, as the Sabbath is “a microcosm of spirit, as if combining in itself all the elements of the macrocosm of spirit.”<sup>19</sup> Since the Sabbath was sanctified by God,” it is *holy*, and therefore, even when men forsake the Sabbath, its holiness remains steadfast.<sup>20</sup> This holy time is an extension of spirit, an opportunity to draw near to God, and is unwavering in its holiness.

This allows for further understanding on the reverence of the Sabbath by the Jewish tradition and allows us to see how it is deserving of veneration. The description

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<sup>16</sup> Ibid, 75.

<sup>17</sup> Ibid, 73.

<sup>18</sup> Ibid, 73.

<sup>19</sup> Ibid, 76.

<sup>20</sup> Ibid, 82.



that the Sabbath is a glance of what the world will be forevermore allows for hope, as there is deep connection to the Lord in the time of Sabbath.

Heschel continues, describing that something happens to a man on the Sabbath day. He writes that “On the eve of the Sabbath the Lord gives man *neshamah yeterah*, or, an additional spirit or soul, and at the conclusion of the Sabbath He takes it away from him...”<sup>21</sup> This emphasizes the importance of the Sabbath in the Jewish tradition, where it is such a religious experience and tradition, and where you are even bestowed with an additional spirit by God. With this, Heschel displays that “All our life should be a pilgrimage to the seventh day; the thought and appreciation of what this day may bring to us should be ever present in our minds.”<sup>22</sup> This focus and idea of living for the Sabbath displays the value of the Sabbath even more in the Jewish tradition, and Heschel goes further, writing that “the Sabbath is the counterpoint of living; the melody sustained throughout all agitation and vicissitudes which menace our conscience; our awareness of God’s presence in the world.”<sup>23</sup> It is displayed how, in Judaism, the Sabbath allows for us to connect with God in a way that, every other day, we do not get to experience. For the Jewish tradition, the Sabbath is deep and is personal, as well as a gift from God, a ‘bride,’ and a time wherein there is a relationship with God in the time set aside, as well as through His presence in the world. Furthermore, the Sabbath is recognized as a sign from God. It is said that it is a sign “of the covenant of the chosen people with Yahweh” as

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<sup>21</sup> Ibid, 87.

<sup>22</sup> Ibid, 89.

<sup>23</sup> Ibid, 89.

well as a “precious gift of God, a sign of God’s faithfulness to His covenant with His people.”<sup>24</sup>

There are several key points that are found within Heschel’s *The Sabbath* that describe the role and importance of the Sabbath in the Jewish tradition, such as that the Sabbath recalls God’s work of creation. This is found in that it *is* a work of creation. The Sabbath allows for us to reflect on the creation of the Lord by being a time in which the Lord’s presence is with us. The Sabbath recalls God’s work of creation by being a time in space wherein we can be fully enveloped by the gift that the Sabbath is. Within the Jewish tradition, the Sabbath is a time to slow down, to fully focus on the Lord as well as to engage with the Lord, because of His presence on the Sabbath.

#### *Rest in the Old Testament*

Between the Pentateuch and *The Sabbath*, there is a stress on the Sabbath as a time of rest for people, for land, and for livestock. This is a vital aspect of the ecology of the Sabbath, as this is displaying how our relationships with the land and livestock should look. In this, as caretakers of the rest of the physical creation, we are commanded to ‘allow’ rest to take place. In the book of Deuteronomy of the Pentateuch, Moses (talking to Israel) displays this:

*Observe the Sabbath day, to keep it holy, as the Lord your God commanded you. Six days you shall labor and do all your work, but the seventh day is a Sabbath to the Lord your God. On it you shall not do any work, you or your son or your daughter or your male servant or your female servant, or your ox or your donkey or any of your livestock, or the sojourner who is within your gates, that your male servant and your female servant may rest as well as you. You shall remember that you were a slave in the land of Egypt, and the Lord your God brought you out from there with a mighty hand and an outstretched arm. Therefore the Lord your God commanded you to keep the Sabbath day. (Deuteronomy 5:12-15)*

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<sup>24</sup> Vaida, “Sabbath and Sunday,” 1.

More specifically, in Leviticus 25, the Lord emphasizes and specifies the Sabbath for the land:

*The Lord spoke to Moses on Mount Sinai, saying, “Speak to the people of Israel and say to them, When you come into the land that I give you, the land shall keep a Sabbath to the LORD. For six years you shall sow your field, and for six years you shall prune your vineyard and gather in its fruits, but in the seventh year there shall be a Sabbath of solemn rest for the land, a Sabbath to the LORD. You shall not sow your field or prune your vineyard. You shall not reap what grows of itself in your harvest, or gather the grapes of your undressed vine. It shall be a year of solemn rest for the land. The Sabbath of the land shall provide food for you, for yourself and for your male and female slaves and for your hired worker and the sojourner who lives with you, and for your cattle and for the wild animals that are in your land: all its yield shall be for food. (Leviticus 25:1-7)*

This is a direct command from the Lord, for humankind to apply the Sabbath to land and livestock, allowing the land to Sabbath for the Lord. Between Deuteronomy 5 and Leviticus 25, we are called to keep the Sabbath but also to allow for the Sabbath to go further than strictly between man and God, and instead include livestock and the land. A period of rest for the land and livestock is a very interesting command by the Lord and allows for a more holy perspective on our relationship with both land and livestock. This command displays for us as humans what an appropriate relationship with land and livestock is and should be, where we are truly *caring* for what we are called to be stewards of.

### *The Ecology of the Sabbath and the Old Testament*

This relationship, between humankind and nature, is just an inkling as to the extensive web of relationships that exist within the Sabbath. It is clear that there is a set of various relationships that are present. These relationships are structured and interconnected, intertwining with one another, and allowing for interaction. These

relationships that exist within this time of Sabbath make up a group of interconnectedness—these relationships are what make up the ecology of the Sabbath.

The ecology of the Sabbath consists of five entities, with God as the focus. Along with God are humans, animals, and land—God’s physical creation. The final entity that is included in this ecology is time. Within this, there is interconnectedness between each of these entities, each one related to all of the others. Especially with the commands by the Lord to Israel, these relationships seem to be centered on God’s physical creation, all the while drawing back to God through the time that *is* the Sabbath. The relationship between God and man, in particular, is advanced and more developed than that of the other relationships. This interrelationship, specifically between God and man, allows for—and creates—a connection of human and divine issues. This bridge is crucial, and within the Sabbath, this relationship allows for the realization that rest is a human and divine issue.

In the book of Exodus, this idea is furthered:

*[B]ut the seventh day is a Sabbath to the Lord your God. On it you shall not do any work, you, or your son, or your daughter, your male servant, or your female servant, or your livestock, or the sojourner who is within your gates. (Exodus 20:10)*

*Six days you shall do your work, but on the seventh day you shall rest; that your ox and your donkey may have rest, and the son of your servant woman, and the alien, may be refreshed (Exodus 23:12)*

It is abundantly clear that the Sabbath is for the Lord, and the Sabbath is rest. We are called to ‘celebrate’ God’s creation of rest, as well as lead those around us—as well as livestock—in submitting to the Lord’s command. This is directly displaying how rest is a necessity and is *good*. God’s creation of Sabbath is to benefit His creation: livestock, land, and man alike. Relating this to Leviticus 25:1-7 further emphasizes the call for the

land to keep Sabbath—as well as how following this instruction will not result in consequences such as starvation, but instead will bless even the wild animals with food.

The stress of the land keeping Sabbath in the form of Sabbatical years displays the interconnectedness between God, man, and land even further. The Lord is commanding that man would allow the ground to rest, and it is not taken lightly when Israelites do not follow this command. Failure of this command even led to the “certainty and duration” of the Babylonian exile, seen through Leviticus 26:32-35 and 2 Chronicles 36:21<sup>25</sup>:

*And I myself will devastate the land, so that your enemies who settle in it shall be appalled at it. And I will scatter you among the nations, and I will unsheathe the sword after you, and your land shall be a desolation, and your cities shall be a waste. Then the land shall enjoy its Sabbaths as long as it lies desolate, while you are in your enemies' land; then the land shall rest, and enjoy its Sabbaths. As long as it lies desolate it shall have rest, the rest that it did not have on your Sabbaths when you were dwelling in it. (Leviticus 26:32-35)*

*He took into exile in Babylon those who had escaped from the sword, and they became servants to him and to his sons until the establishment of the kingdom of Persia, to fulfill the word of the LORD by the mouth of Jeremiah, until the land had enjoyed its Sabbaths. All the days that it lay desolate it kept Sabbath, to fulfill seventy years. (2 Chronicles 36:21)*

This emphasizes the importance of Sabbath, and how it is necessary to abide according to it. The Lord commanded that the interrelationship between humans and the land would be in a caring way within the Sabbath, and, because the relationship from humankind to the land was not caring, justice against God’s unfaithful people occurred.

This care for the land was abnormal and was relatively unique to Judaism. Allowing the land to sit meant that the land would not allow for a profit. In the texts, there is also mention of how the impoverished will glean from the land what it yields, and that all that the land yields will be for food, none for benefit to the landowner. To follow

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<sup>25</sup> “Enduring Word Bible Commentary Exodus Chapter 23.”

God's command here is to relinquish control and to lose what would otherwise be profit. This is a call that is difficult to come to terms with, but is a serious call to care for the land, and the Israelites were disciplined accordingly because they did not truly care for the land.

Here, we, as humans, are being called to display our faith and love more completely for the Lord through the way that we care for the Lord's creation. It is through the Sabbath that we can grasp what our role, of having dominion over creation, should look like. Therefore, it is necessary that we should reflect on this role, and be looking at dominion *through* the lens of the Sabbath, holding the Sabbath and its principles as the foundation for the role that we are called to.

### *Dominion*

This raises the question of what dominion is, where it comes from, and how it relates to the ecology of the Sabbath. The word dominion is in Genesis 1, and is translated here from the Hebrew “הָרַד,” or “*rādā*” which means “to tread down, i.e. subjugate; specifically, to crumble off: have dominion, prevail against, reign, rule, take.”<sup>26</sup> This definition seems to be harsh, in a way, where there is more of an authoritarian or even negative relationship between humankind and the rest of creation.

*Then God said, “Let us make man in our image, after our likeness. And let them have dominion over the fish of the sea and over the birds of the heavens and over the livestock and over all the earth and over every creeping thing that creeps on the earth.”*

*So God created man in his own image,  
in the image of God he created him;  
male and female he created them.*

*And God blessed them. And God said to them, “Be fruitful and multiply and fill the earth and subdue it, and have dominion over the fish of the sea and over the*

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<sup>26</sup> “H7287 - Rādā - Strong's Hebrew Lexicon (Esv).”

*birds of the heavens and over every living thing that moves on the earth.”*  
(Genesis 1:26-28)

These verses demonstrate that it was in the very beginning that man was made to have dominion over the earth. With the aforementioned definitions, it would appear that humankind is enabled and even *made* to rule the environment: This is especially seen to be negative when looking at the other uses of “רָדָה” (rādâ) in the Bible –such as in Isaiah 14:

*that struck the peoples in wrath  
with unceasing blows,  
that ruled the nations in anger  
with unrelenting persecution.* (Isaiah 14:6)

Here, though, it is important to note that we are made in *imago Dei*. With this, our relationship and dominion of the environment is made to reflect God, and *His* relationship with His creation. Our role, to rule and to hold dominion is qualified by Genesis 2:15, where “[t]he Lord God took the man and put him in the garden of Eden to work it and keep it” (Genesis 2:15).

The phrase “to work and to keep it” is from the ESV, and this same phrase is seen to be “to dress it and to keep it” (KJV) and “to work it and to take care of it” (NIV). Here, it is abundantly clear that we, with our role of having dominion and reign over the Lord’s creation, we are instructed to *care for it* and *keep it*. One of the words here is translated from the Hebrew “עָבַד” or “*āḇaḏ*” which is used to denote serving, tilling, and worshiping.<sup>27</sup> The other is translated from the Hebrew “שָׁמַר” or “*šāmar*” which is used to denote keeping, preserving, saving, and even to be a watchman for.<sup>28</sup>

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<sup>27</sup> “H5647 - ‘*āḇaḏ*’ - Strong’s Hebrew Lexicon (Esv).”

<sup>28</sup> “H8104 - *Šāmar* - Strong’s Hebrew Lexicon (Esv).”

We see that humankind's role is to hold high regard for the garden, for all of creation—for the land. This brings us back to the ecology of the Sabbath. The relationship that is being focused on here is the interconnectedness between God, man, and the land. The relationship between man and the land, shown by man's interaction – and *interdependence* – with the land, is crucial to maintaining the ecology. Our role is designated as holding dominion over, but to truly *serve, keep, worship, watch, preserve, and save* the land. This relates back to the Sabbath by exhibiting that our way to serve the land, our way to keep the land, is to *let it rest*. In turn, humankind (as creatures, as part of creation) can also rest.

#### *Chapter Conclusion*

The Sabbath, in the Jewish tradition, is a time where there is rest. Created by God in the beginning, the Sabbath allows for the presence of God. This time is an integral piece of the ecologic web, as it is a means by which interrelationships are present and can grow. In this, our relationship with this time is further indicative of our relationship with the other entities that are present. The Sabbath, and the ecology that is present within it, are gifts from the Lord, and our engagement with the entities present are reflective of our faith. Here, we are commanded to keep the Sabbath, and our role within the ecology is one of a protector, guardian, and caretaker for the rest of physical creation

The Sabbath is a constant in the Pentateuch and is not only a commandment from the Lord but is also one that is reemphasized by God throughout scripture. The Sabbath, given as a gift—and being as holy as it is—allows for the connection of God and man, a key relationship and connection that is within the ecology of the Sabbath. Furthermore, the relationships between God and His creation are to be reflected by us as humans due to



that we are made in the image of God and of His likeness, as well as our role with respect to the environment.

Our relationship with the environment should reflect our being made in *imago Dei* and display our love for the Lord by respecting the Sabbath. On the Sabbath, we are commanded to allow for livestock and land to rest, just the same as we do, especially when it comes to land and the Sabbatical year that is commanded. Likewise, within the Sabbath there are the relationships between the entities that exist, and the connection that humans exert towards each other entity should reflect our role to hold dominion over them while *keeping* them.

In this same vein, the interconnectedness between all these entities displays that the concept of rest is a necessity. Here, the relationship between God and humankind is key within the ecology of the Sabbath, as our relationship with God leads to fulfillment in each of the other relationships, as we grow to reflect Him and His desires. The ecology of the Sabbath, the interconnectedness between God, man, creation, and time allows for us as man to examine our role, to redefine our position away from authority and into obedience towards God's commands.

The gift of the Sabbath, God's spirit in the form of time, has thus far been examined within the discussion and 'within' the confines of the Jewish tradition.<sup>29</sup> The ecology of the Sabbath, and the Sabbath itself, is altered with Jesus Christ.

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<sup>29</sup> Heschel, 75.

## CHAPTER THREE

### The Fulfillment of the Sabbath

#### *Introduction*

In this chapter, I will approach the ecology of the Sabbath in light of the life of Christ. In this introduction, I will lay some groundwork, and will then continue on to the life of Christ. I will do this in sections, beginning with the stories of Jesus in the grainfields. Following this, I will engage with the Gospels and look how Jesus healed on the Sabbath, further fulfilling it. With this idea, I will discuss how this fulfillment is also seen in how our rest can be through Christ, as well as how there are definitive changes to the observance of the Sabbath following Jesus' life. Finally, I will look at the ways that the ecology of the Sabbath have changed because of the life of Christ, with discussion how our relationships with the entities of the 'web' have been altered.

To look more in depth at the question of how the ecology of the Sabbath and how the Sabbath have changed because of Christ, it is necessary to go to scripture to see how Jesus interacted with it. More specifically, it is necessary to look at several key verses throughout the Gospels, as well as other important verses like those in Hebrews 4. In looking at this scripture, I will be able to better display how the coming of Christ has altered the Sabbath for Christians.

Here, it is also important to note that, when it comes to discussion of the Sabbath in the New Testament, it is observed that we have no official commentary from Jesus on the Fourth Commandment...we have no official commentary from Jesus in regards to the

Sabbath.<sup>30</sup> Costa continues with this thought, showing the many places throughout the New Testament wherein there is listing of sins, and there is no mention of breaking the Sabbath.

This is consistent throughout the texts and is in places such as Acts 15:28-29 and Revelation 21:8 and 22:15, the latter of which displays that there are sins that serve to prevent someone from entering New Jerusalem—and breaking the Sabbath is not one of them. This list continues, with Mark 7:21-22, Romans 1:29-32, 1 Corinthians 6:9-10, Galatians 5:19-21, and 2 Timothy 3:1-4. This all lays the groundwork for how the ecology of the Sabbath has been altered, and this allows for us to go into the Gospels, and Jesus’ interaction with the Sabbath. In this, the fulfillment of the Sabbath by Christ allows for the interrelationships in the ecologic web of the Sabbath to be improved.

### *Jesus in the Grainfields*

I will now transition to discussing parts of the Gospel of Mark. These parts of Jesus’ life will allow for us to further engage with how Jesus interacted with the Sabbath, and how he fulfilled it. More specifically, I will start with looking at Mark 2:23-28:

*One Sabbath Jesus was going through the grainfields, and as his disciples walked along, they began to pick some heads of grain. The Pharisees said to him, “Look, why are they doing what is unlawful on the Sabbath?” He answered, “Have you never read what David did when he and his companions were hungry and in need? In the days of Abiathar the high priest, he entered the house of God and ate the consecrated bread, which is lawful only for priests to eat. And he also gave some to his companions.” Then he said to them, “The Sabbath was made for man, not man for the Sabbath. So the Son of Man is Lord even of the Sabbath.” (Mark 2:23-28).*

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<sup>30</sup> Costa, “The Sabbath and Its Relation to Christ and the Church in the New Covenant.”

The last section of this excerpt is extremely important. This is because of Jesus defining himself as the Lord of the Sabbath (and, therefore, Lord). This would be immediately seen as blasphemous in the view of the Pharisees, but for followers of Christ, this would be seen more as Him showing even further His authority and His power as Lord. The second part of the importance that is at play here is Jesus defining the relationship between the Sabbath and humankind. This is critical for discussion of the ecology of the Sabbath, and how it changed with the coming of Christ, where Christ is refining the Sabbath. The Jewish Sabbath was made for man as well, but the fulfillment of the Sabbath allows us to interpret and engage with the entities within the Sabbath. This idea will continue to grow as we look into some of the other passages that are connected to this topic. The story that is in these verses in Mark are also present in Luke 6:

*On a Sabbath,[a] while he was going through the grainfields, his disciples plucked and ate some heads of grain, rubbing them in their hands. But some of the Pharisees said, "Why are you doing what is not lawful to do on the Sabbath?" And Jesus answered them, "Have you not read what David did when he was hungry, he and those who were with him: how he entered the house of God and took and ate the bread of the Presence, which is not lawful for any but the priests to eat, and also gave it to those with him?" And he said to them, "The Son of Man is Lord of the Sabbath." (Luke 6:1-5).*

The purpose in showing this, though it is nearly identical to the same story in Mark, is just to emphasize the importance of Jesus as Lord of the Sabbath, as well as the historical accuracy of what He said, as both sources hold that He said the same thing. Furthermore, this is adding to the illustration of how the Ecology of the Sabbath is changed because of the coming of Christ, as there are new relationships being formed within the ecologic 'web.'

## *Jesus Healing on the Sabbath*

This chapter in Luke continues, which holds more information on how the Sabbath changes with Christ, where there is the story of the man with a withered hand.

*On another Sabbath, he entered the synagogue and was teaching, and a man was there whose right hand was withered. And the scribes and the Pharisees watched him, to see whether he would heal on the Sabbath, so that they might find a reason to accuse him. But he knew their thoughts, and he said to the man with the withered hand, "Come and stand here." And he rose and stood there. And Jesus said to them, "I ask you, is it lawful on the Sabbath to do good or to do harm, to save life or to destroy it?" And after looking around at them all he said to him, "Stretch out your hand." And he did so, and his hand was restored. But they were filled with fury and discussed with one another what they might do to Jesus. (Luke 6:6-11).*

What better way to reemphasize what the Sabbath is meant to be than for Jesus to heal on the Sabbath? If the Sabbath is truly meant to be a period of time that allows us to be completely in the presence of God, and God's *spirit within time*, should there not be the wonderful presence of God that persists with the aspect of healing and freedom that comes from being with Him? Of course, this restoration was taken poorly by the Pharisees, as it was 'violating' the Sabbath according to the Jewish laws. Mark 3 holds the same story, where, again, the exact same recount between these two books allows for there to be emphasis placed on the story itself but also that it is historically accurate.

*Again he entered the synagogue, and a man was there with a withered hand. And they watched Jesus, [a] to see whether he would heal him on the Sabbath, so that they might accuse him. And he said to the man with the withered hand, "Come here." And he said to them, "Is it lawful on the Sabbath to do good or to do harm, to save life or to kill?" But they were silent. And he looked around at them with anger, grieved at their hardness of heart, and said to the man, "Stretch out your hand." He stretched it out, and his hand was restored. The Pharisees went out and immediately held counsel with the Herodians against him, how to destroy him. (Mark 3:1-6).*

Jesus fulfilling the law of Sabbath continues, with many more accounts of Him healing on the Sabbath day. These are examples of the ways by which Christ is

displaying himself as what the Sabbath is pointed towards, as he is the fulfillment of the Sabbath. Tony Costa elaborates on this, where the Sabbath, in the Jewish tradition, is to be *observed* and *remembered*, and this is fulfilled with Christ.<sup>31</sup> This is, in part, because of His works on the Sabbath—works of healing those who are hurting, and feeding those who are hungry.

The works of healing continue:

*Now he was teaching in one of the synagogues on the Sabbath. And behold, there was a woman who had had a disabling spirit for eighteen years. She was bent over and could not fully straighten herself. When Jesus saw her, he called her over and said to her, “Woman, you are freed from your disability.” And he laid his hands on her, and immediately she was made straight, and she glorified God. But the ruler of the synagogue, indignant because Jesus had healed on the Sabbath, said to the people, “There are six days in which work ought to be done. Come on those days and be healed, and not on the Sabbath day.” Then the Lord answered him, “You hypocrites! Does not each of you on the Sabbath untie his ox or his donkey from the manger and lead it away to water it? And ought not this woman, a daughter of Abraham whom Satan bound for eighteen years, be loosed from this bond on the Sabbath day?” As he said these things, all his adversaries were put to shame, and all the people rejoiced at all the glorious things that were done by him. (Luke 13:10-17)*

And further:

*One Sabbath, when he went to dine at the house of a ruler of the Pharisees, they were watching him carefully. And behold, there was a man before him who had dropsy. And Jesus responded to the lawyers and Pharisees, saying, “Is it lawful to heal on the Sabbath, or not?” But they remained silent. Then he took him and healed him and sent him away. And he said to them, “Which of you, having a son[a] or an ox that has fallen into a well on a Sabbath day, will not immediately pull him out?” And they could not reply to these things. (Luke 14:1-6)*

These passages show the rhetoric of Christ against the Pharisees in terms of ‘breaking’ the Sabbath. If the Sabbath is truly a time of connection with the Lord, the Lord is a caring and loving God, and there are people in pain or hunger—or animals that

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<sup>31</sup> Costa.

are thirsty—how could there *not* be healing and how could healing *not* be allowed. In John 9, this is continued, except there is more debate in favor of Jesus...

*They brought to the Pharisees the man who had formerly been blind. Now it was a Sabbath day when Jesus made the mud and opened his eyes. So the Pharisees again asked him how he had received his sight. And he said to them, "He put mud on my eyes, and I washed, and I see." Some of the Pharisees said, "This man is not from God, for he does not keep the Sabbath." But others said, "How can a man who is a sinner do such signs?" And there was a division among them. So they said again to the blind man, "What do you say about him, since he has opened your eyes?" He said, "He is a prophet." (John 9:13-17).*

Furthermore, John 7—and John 5—elaborate on this topic, where Jesus reveals some hypocrisy within the Pharisees' train of thought and practices. Along with this, in John 5, Jesus continues to redefine and refine the Sabbath, as well as implementing and displaying His ultimate authority.

*Moses gave you circumcision (not that it is from Moses, but from the fathers), and you circumcise a man on the Sabbath. If on the Sabbath a man receives circumcision, so that the law of Moses may not be broken, are you angry with me because on the Sabbath I made a man's whole body well? (John 7:22-23)*

*The man went away and told the Jews that it was Jesus who had healed him. And this was why the Jews were persecuting Jesus, because he was doing these things on the Sabbath. But Jesus answered them, "My Father is working until now, and I am working." This was why the Jews were seeking all the more to kill him, because not only was he breaking the Sabbath, but he was even calling God his own Father, making himself equal with God. (John 5:15-18).*

Several of these stories and interactions are all present in the book of Matthew as well. Specifically, in Matthew 12, we see disciples and Jesus harvesting the grain on the Sabbath, followed by a healing work of Jesus unto a man with a shriveled hand. The inclusion of the end of Matthew 11 is necessary to for the fullness of this topic:

*Come to me, all you who are weary and burdened, and I will give you rest. Take my yoke upon you and learn from me, for I am gentle and humble in heart, and you will find rest for your souls. For my yoke is easy and my burden is light. (Matthew 11:28-30)*

I agree with what Costa says about this excerpt, where Jesus is declaring himself to be the Sabbath, in a way, in this passage—as he is *commanding* people to come to him and gain rest, even rest of the soul. Costa continues, describing the inadequacy in the Sabbath of the Old Testament in that it was not eternal, and rather was limited greatly—especially in terms of time. Costa goes on, writing:

*In speaking of the yoke, Jesus not only promises rest, but also offers us work, to work for him. In this text, we hear an echo of the pattern of Genesis 2:15, to work in Eden and enjoy rest in fellowship with God. In fellowship with Jesus, one enters God’s rest, for Jesus the Messiah is the Sabbath of God.*<sup>32</sup>

Costa describes this in a very accurate manner, where, by fellowship with Jesus, we can obtain the very things that the Sabbath was providing<sup>33</sup>. This a mention of rhythms that are present within our relationship with God, which I will elaborate further upon in Chapter 5. With this too, connection with Jesus is a way to ‘achieve’ rest because He fulfills the Sabbath.

### *Rest Found in Christ*

Norman Wirzba writes of how we do not fully realize God’s *menuha* (rest), but that Jesus takes within himself the aspirations of Sabbath life—giving them concrete examples in the ministries of feeding, healing, exorcism, companionship, and service.<sup>34</sup> This is contributing to the extent that Jesus fulfilled the Sabbath, especially concerning God’s *menuha*, where we now have a wonderfully more full understanding of the rest, in

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<sup>32</sup> Costa.

<sup>33</sup> Ibid.

<sup>34</sup> Wirzba.



Christ. This idea of rest is continued by the author of Hebrews, where, in Hebrews 4, it is written:

*Therefore, while the promise of entering his rest still stands, let us fear lest any of you should seem to have failed to reach it. For good news came to us just as to them, but the message they heard did not benefit them, because they were not united by faith with those who listened. For we who have believed enter that rest, as he has said,*

*“As I swore in my wrath, ‘They shall not enter my rest,’”*

*although his works were finished from the foundation of the world. For he has somewhere spoken of the seventh day in this way: “And God rested on the seventh day from all his works.” And again in this passage he said,*

*“They shall not enter my rest.”*

*Since therefore it remains for some to enter it, and those who formerly received the good news failed to enter because of disobedience, again he appoints a certain day, “Today,” saying through David so long afterward, in the words already quoted,*

*“Today, if you hear his voice, do not harden your hearts.”*

*For if Joshua had given them rest, God would not have spoken of another day later on. So then, there remains a Sabbath rest for the people of God, for whoever has entered God's rest has also rested from his works as God did from his.*

*Let us therefore strive to enter that rest, so that no one may fall by the same sort of disobedience. For the word of God is living and active, sharper than any two-edged sword, piercing to the division of soul and of spirit, of joints and of marrow, and discerning the thoughts and intentions of the heart. (Hebrews 4:1-12)*

Here, the author describes that the Sabbatical rest still exists, and that we still should strive to be engaged with that rest. Here, though, it is a necessity to come to the realization and have full faith that Jesus' atonement for us allows us to have this rest in the Lord. There is recall to the rest that was created on the seventh day, the rest of the Sabbath, and discussion on how there are essentially still openings; there is still availability for us to enter into the rest that God provides and that He created.

All of these passages and scripture of the accounts of Christ's life display him as the fulfillment of the Sabbath. Access to God's *menuha* can be found in this Son of Man, and the connection with the Spirit of the Lord—which was desired and focused on—is

present, active, and living as the Lord Jesus. By this, we can see how Jesus has fulfilled the Sabbath, and thus, has altered the sabbath for his followers.

The Sabbath's fulfillment by Jesus is a gracious gift to us, and it is a clear picture of the loving nature of God. God is providing a means by which we can experience a taste of Heaven, through His Son. With Jesus as the fulfillment of the Sabbath, we are now able to more wholly experience the *rest* that God created, by engaging with Jesus and drawing ourselves closer to Him. This rest that are we able to experience relates back to the ecology of the Sabbath, as it refines our relationship with the other entities within the 'web' of relationships—where, as we experience the rest, we ought to continue to allow rest to what we are caretakers of. In understanding our role within the ecology of the Sabbath, as recipients of this gift of rest, we can better understand how we should relate to the rest of Creation and to our Creator.

The Sabbath, before Christ, was something that was yearned for during the week, and at the end of the 24-hour period, the additional spirit was essentially taken back. With Christ, the rest that we long for is accessible, and is more complete. Here, the Sabbath has been made *for* humankind, where, in the New Covenant, we can fully “experience the true Sabbath rest in salvation in Christ.”<sup>35</sup> Moreover, in this chapter of Hebrews, there is emphasis that the rest can only be experienced through faith, where those who believe can enter the pure, holy, and true rest.

This refining of the Sabbath, in that Jesus Christ is the fulfillment of the Sabbath, and is the complete form of it, allows for Christians to relate to the Sabbath, and to engage with the Sabbath, in a vastly different way. This can be seen by some of the

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<sup>35</sup> Costa.

concrete practices by Christian communities in Christian history, which I will display in order to provide a more complete picture of the Sabbath, and to lead into my final discussion within this chapter, of the ecology of the Sabbath, in light of Christ.

### *Changes in Sabbatical Observance*

Jesus Christ's resurrection shifted the focus, in a way, away from the traditional Sabbatical day of Friday evening to Saturday evening. An early example of this is seen to be commemorated in the early church, where, in Acts 20:7, Paul, and the men he was with, were gathered together to break bread. This, though, is not substantial evidence towards a weekly gathering of the early church, according to several biblical scholars.<sup>36</sup>

Around 150 A.D, in *The First Apology of Justin*, Justin writes about the first weekly meetings regularly taking place on Sundays for followers of Christ living in Rome, while there was no formal celebration or keeping of the Sabbath.<sup>37</sup> McIvre continues, discussing the history of Rome after Christ's death and in the midst of the early church, especially during Constantine's rule. He concludes that there was a gradual decline in Sabbath observance and a gradual increase in Sunday's observance, as well as mentioning that a part of this shift could have also been due to Christian's trying to distinguish themselves from Jews in Rome or Alexandria.<sup>38</sup>

All of this to say, the first shift of the period of observance towards Sunday and away from Saturday began very early on in the church, but likely not during the time of

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<sup>36</sup> McIver, "When, Where, and Why Did the Change from Sabbath to Sunday Worship Take Place in the Early Church?"

<sup>37</sup> Ibid.

<sup>38</sup> Ibid.

the church's beginning. Along with this, it seems that Sunday rest was urged rather than Sabbath as early as the second century, but this continued to be an issue between communities, and some groups continued to observe both days—but this shift gained more traction with Constantine promoting rest on the day of the sun.<sup>39</sup> Here, it is clear that there was a broad mixture of practices in the early church when it came to practicing the Sabbath. This continued for several hundred years, where some sects of the faith continued to keep Sabbath and celebrated on Sunday—celebrating on Sunday to observe and remember Christ's resurrection and also because of the political happenings, where more and more encouragement was towards celebrating on Sundays.

Different groups of Christians continued in their ways, and some splits occurred over this time period, where some groups practiced strictly the Sabbath, while some applied the views and 'goals' of the Sabbath to Sunday—and others no longer observed Sabbath at all. At The Council of Trent, in 1562, there was a large decision that was proclaimed. The proclamation came from the archbishop of Reggia, declaring that, under the authority of the Catholic Church, the Sabbath has been changed into the Lord's day.<sup>40</sup> Pope Gregory, Yost writes, adds to the discussion by saying that there should be a cessation of labor on the Lord's Day—Sunday.<sup>41</sup>

It is also necessary to note some of the early, Sunday-observance-days, though, as it is important to understand how Christians would practice the Sabbath. Here, around the year 700, there is a 'gesture' by Roman Catholic Anglo-Saxons in that there is

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<sup>39</sup> Kraft, "Some Notes on Sabbath Observance in Early Christianity."

<sup>40</sup> Yost, "THE EARLY CHRISTIAN SABBATH."

<sup>41</sup> Ibid.

punishment for having a slave work on the Lord's day—where the slave goes free and the master is fined.<sup>42</sup> Along with this, there is discussion on the role of King Charlemagne of the Franks. Around the year 770, there is a declaration by the King that everyone must attend church on the Lord's day, as well as have no servile work done, nor markets open.<sup>43</sup>

Throughout Christian history, there are a variety of practices and timeframes by which there was transfer towards Sunday for observance. The important theme here, though, is that Christians steadily are holding on to some of the 'goals' of the Sabbath while it transfers to the Lord's Day. The goal of the Sabbath of rest and connection with the spirit of the Lord is still present, but it is all within a reflection of Christ, and is achieved through remembrance of Christ.

With this, it is evident that aspects of the celebrating and 'keeping' the Sabbath have remained consistent to Jewish tradition, but the vast majority of practices have changed, especially with regards to what day of the week the observance takes place. Through the discussion of how the Sabbath has changed, and how the Lord's Day has gradually become the main day of celebration for Christians across the past 1700 years, we are beginning to see the changes that have come from Christ's life, concerning the Sabbath.

This allows for a baseline to be made, that the life of Jesus has indeed changed the Sabbath in terms of the period of time that it persists. This is then paired with the earlier conclusions that Christ has fulfilled the Sabbath, and the Sabbath is Him. Here, it is seen

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<sup>42</sup> Ibid.

<sup>43</sup> Ibid.

that the ideals of the Sabbath continue to exist, except they are within Christ and found through Him. Faith in Christ is a necessity to experience the rest that the Sabbath hints at, where Christ provides the spiritual rest in a complete manner. Through this discussion, it is seen that there have been changes in the Sabbath, in that it has not only been fulfilled by the Son of Man but that Christian observers of the Sabbath as a time period have essentially shifted their celebration. This is important when it comes to the next and final portion of this chapter, where I will display and discuss how the Ecology of the Sabbath has changed in light of Christ.

### *The Ecology of the Sabbath in Light of Christ*

I previously argued that the Ecology of the Sabbath essentially consists of five different entities, with God as the main focus. Here, there are humans, animals, land, and time that are each incorporated into the ecologic web. I will dive into how the coming of Christ, His death and resurrection have altered the ecology itself. This begins with a discussion of our new relationship with the Lord, because of Christ, and I will follow this by looking at how our relationship has changed with time, as well as the other entities of the ecologic web of the Sabbath.

#### *With God*

Instead of simply engaging with God's spirit, in the form of the creation of time, we can engage with God through our relationship with Christ, as well as the Holy Spirit. This allows for a shift in perspective when it comes to the Sabbath itself, as Christ is the fulfillment of the Sabbath.

This, then, changes the ecology of the Sabbath that exists. Christ as part of the Holy Trinity then means that, by engaging with Christ, we are engaging with God the Father. Along with this, the ecology of the Sabbath is altered by the coming of Christ due to the Holy Spirit. The Holy Spirit being within us, as Christians, changes this ecology of the Sabbath as well, where not only do we have access to Christ and the Father but we *have* the Spirit, the Spirit *dwells within us* (Romans 8:9, 1 Corinthians 3:16, Romans 8:26).

This is all to say that the ecology of the Sabbath has been altered by Christ because of the amount of accessibility that we now have, in our relationship between us as humans and our God. It consists first of a newfound relationship between humans and God, where His spirit of rest is more accessible, not only directly, but also between us and our relationship with time.

### *With Time*

This aspect of the ecologic web that is present in the Sabbath is extremely interesting, in that we are not only in a much deeper relationship with God through Christ, but we also have access to Him in a more profound way. The main part of this is how our relationship with time changes because of Christ. In the last chapter, Heschel had described how there was a longing for the Sabbath to come in order to engage with God, and how God's spirit was granted to us in the 24-hour period that was the Sabbath. The coming of Christ changes this, as God's *menuha* is accessible through Christ.

The fulfilled Sabbath, holy rest through Christ and through our faith in Him, holds a change in our relationship with time. Now, there is no longer the longing for the time,

but rather a deeper longing for our intrapersonal connection with Christ, as the rest that is sought is through Him. This fulfillment of the Sabbath then changes the entity of time, and its role in the ecologic web that is present. This is not to say that time is no longer an aspect, or even an important one, not at all. The change is evident and transformative, as our relationship and interaction with God's spirit in the form of time is no longer based on the time that is set and is no longer bound by time.

Time, as part of the ecologic web that is in play, is now more of a positive entity, rather than one that is limiting us from experiencing the Lord, in that there is a limited amount of time that we have the Sabbath. Along with this relationship shift, there is also the 'physical' shift that came from Christ's life, in that the Sabbath, in the sense of a time period of reflection and observance, is no longer from Friday evening to Saturday but rather 'existing' on Sunday. Though this is not necessarily a result from a command of Jesus, it is still an integral part of the change that has occurred in light of Christ, due to Jesus' resurrection falling on the first day of the week—and observance/remembrance thus occurring on that day.

Simply because of Christ's life, death, and resurrection, there have been changes in the ecology of the Sabbath concerning the nature of our relationship with God and with time. This is important, as it shapes the way that Christians, especially now, *consider* the Sabbath. This new ecology allows for Christians to have freedom in the sense that there is accessibility to the Spirit of God—with the Holy Spirit *within* us—and accessibility to the rest that comes with the Sabbath through our Savior, Christ.

Christ as the Lord of the Sabbath displays in His life how Pharisees were essentially interpreting the Sabbath to be more restrictive than it is. His works of healing



that he performed on Sabbath were not breaking the Sabbath in any sense, but were instead allowing for visibility as to what the Sabbath *is*. Here, the Sabbath is refined through Christ, whose good works on the day of the Sabbath allow for clarity regarding how the Sabbath should be viewed, and what the Sabbath points us to—where the Sabbath (and Christ’s works on the Sabbath) point us to the glory of God. This is evident in that there will be no more pain—nor mourning nor crying—as seen in Revelation 21. Christ is displaying how the Sabbath is and should be a glimpse of Heaven due to the true, spiritual, rest that is found in it and also the healing that comes within it (through, and because of Christ).

#### *With Land and Animals*

There are the other entities, though, of land and animals, the nonhuman creation of the Lord. Our relationship with the nonhuman creation changes on a very different scale than our relationship with time and with God does. Here, the ‘hierarchy’ stays almost the same between the Old and New Testaments, and therefore between the old and new ecologies. We retain almost the same relationship with the environment that we did prior to Christ, but our perspective and how we approach that relationship should change. Through Christ as the Lord of the Sabbath, all things with the ecology of the Sabbath revolve around Him. This indicates that our relationship with nonhuman creation changes as we should now approach them with a Christological lens and apply the life and resurrection of Christ to our relationship with it. Here, we can look at how Christ interacted with nonhuman creation in order to center ourselves within the new ecology. In Matthew 12, we are able to see this.

*He said to them, “Which one of you who has a sheep, if it falls into a pit on the Sabbath, will not take hold of it and lift it out? Of how much more value is a man than a sheep! So it is lawful to do good on the Sabbath.” (Matthew 12:11-12).*

Here, Jesus is displaying two fundamental parts of the Sabbath. He is not only displaying that it is an integral part of the Sabbath to do good, but also is establishing part of the centric hierarchy that exists in the Sabbath, showing that man is higher than nonhuman creation. This relates back to the commands that were discussed in the first chapter, where it is part of our role on earth to care for the earth. Though we are higher in value than nonhuman creation, Jesus is maintaining that our relationship with the earth – in terms of this care for it—does not change drastically. If anything, it allows growth in the amount of care we should have for it

In looking at Christ’s life, we are able to see this further, in that He *kept* the Sabbath, and at the same time fulfilling it. Here, Christ is teaching us what our actions should be on the Sabbath through His life, and in his messages to the Pharisees, he mentions our relationship with the natural world, how it is lawful (and a fundamental part of the Sabbath) to do good on the Sabbath, and who wouldn’t lead their ox or donkey to water if it were thirsty (Luke 13:15)? This continues, where in Luke 14:5, Christ says “Which of you, having a son or an ox that has fallen into a well on a Sabbath day, will not immediately pull him out?” Here, it is clear that care for nonhuman creation is an aspect of the Sabbath. This is a continuation from Matthew 12:11 as well, where caring for livestock is crucial and *is good* on the Sabbath.

With Jesus having kept the Sabbath in His life, and with what He teaches about caring for nonhuman creation, it is clear that a part of our relationship, especially within the Sabbath, is caring for this creation as well. Since Christ is the Lord of the Sabbath,

and our effort is to engage with Christ and follow Him, our actions should reflect this as well.

This is the change that exists in the ecology of the Sabbath for nonhuman creation. Animals and land are to be cared for in a way that reflects our relationship with Christ. With Christ's teachings on this matter, and how he obeyed the Lord's commands in His life, we can deduce that Jesus was consistent in His obeying of the Law regarding the land and animals, especially regarding the Sabbatical years that were discussed in Chapter 2, where the seventh year is a year of rest for the land and livestock. Here, the new ecology of the Sabbath, when it comes to our relationship with the land and animals, is changed in that it is now a reflection of our relationship with Christ.

These ideas, of our standing in the *new* ecology of the Sabbath, pervade through our relationship with the Triune God, time, and the environment. Despite our shortcomings in this realm, evidence of the intrinsic nature of this standing exists within our relationship with the environment. Here, there is a relationship between us—within the new ecology of the Sabbath—as Christians, and our environmental practices.

## CHAPTER FOUR

### Environmental Implications

#### *Introduction*

In this chapter, I will discuss the question of what modern environmental science can contribute to the ecology of the Sabbath. I will also focus on the alternative, of what modern environmental science cannot contribute. The general layout of this chapter will be discussion on the scientific research that is related to each of these systems or techniques, followed by how the system or technique relates back to the ecology of the Sabbath.

In part, the purpose of this chapter is to allow us to see the interconnectedness within the entities of the web, and to further understand our role as caretakers, having dominion over the earth. In addition, as Wirzba puts it, “The teaching of creation alerts us to who we are before God, what the nature of this God is, and what God intends for creation as a whole.”<sup>44</sup> Wirzba’s commentary on this is important to this chapter, as we are truly learning from creation, and because of this, learning more about God. Furthermore, a purpose of this chapter is to see how there is presence of the Sabbatical ideals of *rest* and *reciprocity* in nature, and how these point back to the beauty and benefits of the ecology of the Sabbath.

There are subsections within this idea, though, of what environmental science can contribute, both in the sense of what it possibly could contribute and what it has or is currently contributing to the topic. To examine this, I will engage with different aspects

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<sup>44</sup> Wirzba, *The Paradise of God*.

of environmental science, in terms of current practices that are in some form related to the Ecology of the Sabbath. This is not by any means an exhaustive list, and instead shall serve as examples for this topic. Here, I will make observations about how the practice is inherently connected to the principles of the ecology of the Sabbath. To answer this question in a well-rounded way, and to be complete in my analysis, it is necessary that I first engage with the origins of some of these modern practices, and to discuss how the prior chapters in this project relate to this question.

The main basis and argument that is this chapter is that the principles of the Sabbath are ingrained within modern environmental practices. This is first seen by the historical perspectives that I examined with the Jewish tradition and with the more recent Christian traditions. In the Jewish tradition, it is important to remember Heschel's explanation along with verses in the Old Testament. Heschel's explanation regarding principles of the Sabbath are important to consider, where the Sabbath is a work of creation itself, it is a holy time, and allows for man to be connected with God. In the Old Testament, God's commandments include applying the Sabbath to the land and animals (Leviticus 25:1-7). Here, there is a hint at what the Sabbath is in the Jewish tradition, in accordance with God's Word and Heschel's – this is that the Sabbath is a holy time wherein there is the ability to experience God, and that the Sabbath is inclusive of God's creation.

For Christians, the coming of Christ altered the Sabbath in that He fulfilled it, allowing us to engage with God outside of the time constraint of the Sabbath in the Jewish tradition, and in a way that is more holy and full. Within the Christian and Jewish traditions, there is an emphasis on our connection with the full ecology that exists in the

Sabbath, and, though it varies between the two, there are fundamental aspects that are involved. The main relationship that is clearly present in both is between God and man. The relationships of man with time may have slight differences, but ultimately are still crucial in the ecology, and important for spiritual connection. Humankind's relationship with the rest of creation, especially in terms of practices that tie us to the land, have also changed, though not very dramatically.

For Ancient Jewish communities, there was an interesting dynamic within farming because of their observation of the law, wherein there was respect for the sabbatical years of rest for the land, a fallow year. This led to the communities standing out, as abiding in the laws resulted in less crop yield, in both the sabbatical years of rest for the land but also following the command to not reap to the edges of the field (Leviticus 23:22). This means of farming is odd in any perspective besides in a religious way. Looking at these methods outside of religion is confusing, as the question arises of what is the point—especially economically—of growing so much if you cannot harvest it all, and how does it make any sense to take an entire year off—not simply a year of growing something new, but instead a fallow year.

These are the earliest examples of the connection between environmental science and the Sabbath. The religious values of rest are here, intertwined with the way that people conducted their farming—that is, assuming they followed this command. There is continuity within this practice, of letting the ground rest, especially for the Jewish tradition, but this leads toward how Christians have connected these thoughts.

The connection between Sabbath and farming practices is not nearly as present for Christian communities as it was for Jewish communities, in part because of technological

changes and farming innovation, but also because of the coming of Christ. At least for more-modern examples of this connection, there is one group that persists, in a way, with their combination of these commands of letting the ground rest and farming. The Amish community represents this well, at very least in their efforts towards sustainable methods and organic practices. In this way, they are exemplary in their efforts, as holding fast to organic methods, especially in a time where biocides are nearing to a point of being required for success.

Here, it is evident that Jewish and Christian traditions have followed and follow the principles of this connection, where God's commands pervaded into farming practices. For Jews and Christians, there has been economic loss due to following the commands of God, as practicing sabbatical years, and saving products for the gleaners, is not economically beneficial by any means.

This way of farming—implementing organic practices and using a sustainable approach in agriculture—is extremely beneficial to the environment, and portrays a deep care and connection for the land and crops that is then tied to religious ideals. This is a crucial aspect of the ecology of the Sabbath, where Jews and Christians are closely tied with the environment through these sustainable methods and letting the ground rest. This has been necessary to discuss, as it lays the groundwork for where this chapter is going from here, as I will begin to discuss modern environmental science that is not immediately seen as being connected with religious ideals. Here, there are many practices within modern environmental science that relate to this topic, but I will focus more in depth on a few, including rotational practices and some farming practices.

### *Rotational Practices*

Rotational practices are wonderfully demonstrative of the principles of the ecology of the Sabbath. In this, they are exhibitory of the rest that is accessible through God. Through the rotational systems, there are portions of the land that are allowed to have a Sabbath, or at least a ‘taste’ of the rest of a sabbatical year. Though these rotational systems are not necessarily intentionally displaying the principles of rest, they are nevertheless still indicators of them. Here, there is a presence of rest that is ultimately beneficial to the well-being of the environment, but it is still limited, and not to its full potential.

In this section, I will describe three different rotational systems that are present in modern environmental practice, and how they relate to the ideals of the Sabbath, more specifically, the sabbatical year of rest for the land. The three rotational systems are Crop Rotation, Rotational Grazing, and Patch-Burn Grazing.

#### *Crop Rotation*

To provide a proper analysis of the connection between crop rotation and ideals of the Sabbath, it is necessary to first understand what crop rotation is. Along with this, I will engage with several scientific articles to display the benefits of crop rotation, which I will then connect back to the topic, and the point that the scientifically proven methods are inherently connected to the principles of the ecology of the Sabbath, and sabbatical rest.

To begin, there are essentially two broad types of crop rotations. There is fallow in rotation, which incorporates areas of idle or diverted land.<sup>45</sup> This is to say, there is a

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<sup>45</sup> Padgitt, Merritt, “4.2 Crop Rotations.”



section of the land, or all of the land, that has a period of time in which there is no growth. The other type is more broad, and consists of many subtypes, but is characterized by growth of different species, rather than continuously growing the same crop across several years. An in-depth analysis of the subtypes, as well as the benefits of each, would result in too much of a diversion from the topic at hand, so there will only be discussion on a 'shallower' scale.

In the first article I will discuss, Yang (et. al) looked at the benefits of diversifying crop rotation.<sup>46</sup> Here, it was found that there is higher yield in the crops themselves as well as less N<sub>2</sub>O emissions. This was further found beneficial in that, ultimately, there was improvement to soil health in general. Yang's study provides more in depth discussion on the processes that are at play, and allows for perspective in a more scientific view. It was found that systems such as the sweet potato-winter wheat-summer maize crop rotation, which led to an increase of 38% in the annual yield<sup>47</sup>. This was with the baseline of the more 'conventional' method, of only winter wheat-summer maize rotation. This level of growth was further seen with legume-based rotations. Here there was a difference of 37% of the amount of fertilizer that was required, as compared with the conventional method that is aforementioned<sup>48</sup>. In conclusion for the article, it was ultimately found that the diversification methods that had been employed offered great benefits. This included a lessening of the total emissions, as well as a "synergistic effect on plant biomass and protein production, soil health, and microbial community

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<sup>46</sup> Yang et al., "Diversifying Crop Rotation Increases Food Production, Reduces Net Greenhouse Gas Emissions and Improves Soil Health."

<sup>47</sup> Ibid.

<sup>48</sup> Ibid.

biodiversity.”<sup>49</sup> Through this article, and in the data that was collected, there is significant evidence that contributes to the benefits of crop rotation. More specifically, the diversification of crop rotations allow for significant increases in total yield, as well as ‘assistance’ in decreasing emissions.

Here, the “synergistic effect” that was evident brings us back to the intrinsic attributes of the sabbath, and the interconnectivity that is within the ecology. The inclusion of benefits to the plants, land, and micro-biosphere that is listed relates back to the ecology of the sabbath, in which there is beneficial rest that is present. This rest was portrayed by the diversification of crops in the rotational system, where the land was able to, on some level, restore itself, which then led to increase in production, as well as decreasing emissions. The decrease in emissions in itself is also a tie to the ecology of the sabbath and the interconnectivity that persists, where the principles of rest are connected to environmental health.

The second article that I will bring to conversation discusses phosphorus more specifically. An incredibly general statement of what phosphorus is, is that it is a crucial element for growth in biota, and, in general, the phosphorus that is available in the soil is taken up and leads to energy. Here, Wang (et. al) focused on crop rotation, specifically focusing on how the phosphorus cycle is affected<sup>50</sup>.

In the study, the key findings were that crop rotation processes significantly alter the genes that are associated with the phosphorus cycle. Along with this, the rotation of specifically wheat to soybean led to enriched soil—that is, having sufficient nutrients. This

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<sup>49</sup> Ibid.

<sup>50</sup> Wang et al., “Metagenomes Reveal the Effect of Crop Rotation Systems on Phosphorus Cycling Functional Genes and Soil Phosphorus Avail–Ability.”

wheat to soybean rotation (WS), allowed for the total available phosphorus to increase, at least in comparison to some other rotations. Here, the WS rotation led to some of the necessary functions of the phosphorus cycle to be enhanced, due to the presence of phosphorus in the soil. Here, it was also mentioned that diversification of crop rotation is generally an efficient and effective way to promote soil health, as a portion of the system is designed to maintain soil nutrient levels. This is especially seen with the WS rotation, where the soybean (a legume) serves to enhance the available phosphorus in the soil, whereas the wheat growing season leads to phosphorus depletion<sup>51</sup>.

Wang's article concludes that "Among the three crop rotation systems, WS can be regarded as an efficient planting system for improving P availability, as it had a higher AP content than in WC and WM, exhibiting a significant increase of 37.3% and 41.5%, respectively."<sup>52</sup> Here, WC and WM are the wheat to cotton and wheat to maize crop rotation systems, and AP is 'available phosphorus'. This is continued proof of the benefits of crop rotation systems, and here, it is especially apparent that inclusion of a legume is ultimately beneficial in maintaining soil health, as well as phosphorus levels in the soil.

This is also indicative of the interconnectivity that exists in ecology, and in turn is indicative of the connection to the principles of the ecology of the sabbath. Again, the crop rotation system is allowing for the land to rest, and to replenish. Although the sabbatical year of rest is not necessarily present here, the ideals of letting the ground rest are at hand. The increase of AP of around 40% is creating a more connected system, and

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<sup>51</sup> Ibid.

<sup>52</sup> Ibid.

is reflective of the principles of the ecology of the sabbath. This reflection is through the relationships that are present between land, time, and humans, where, here, the time period of different growth is resulting in nearly ‘true’ rest for the land. In comparison with monocultures, these crop rotation systems are clearly seen to be scientifically better for the land. This holds true especially the longer the time period is, as monocultures continue to drain the earth of nutrients, resulting in intervention in the form of synthetic nutrients, whereas the crop rotation, especially WS, is exhibiting that there is ultimately less nutrient depletion.

Yu (et. al) also presents an applicable article to this topic, where the researchers looked at the general benefits of crop rotation on the climate’s resilience<sup>53</sup>. Yu states that, specifically in China, crop rotation in some way or another has been present for a long time, even as early as the Warring States Period<sup>54</sup>. This specific rotational method included the cereal crops to legume rotation, and was ultimately found as beneficial for the grain’s yield. The article goes on, presenting that crop rotation has even assisted in reducing fragility within the realm of farming and agricultural areas, where crop rotation can provide an extra source of income for farmers, as well as decrease the overall amount of harm that comes to the soil’s health through extreme weather. In terms of conservation of water, crop rotation was found to be beneficial still, where the overall soil’s water content can be improved upon. This is because of the reduction of water loss through surface runoff and evaporation, where the crop rotation allows for coverage to be present throughout the year.

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<sup>53</sup> Yu et al., “Benefits of Crop Rotation on Climate Resilience and Its Prospects in China.”

<sup>54</sup> Ibid.

Along with this idea is how, because of the crops that are present throughout the year, there is less overall soil erosion that exists, as the water runoff that does occur does not result in eroding topsoil. The article also finds that crop rotation can be greatly beneficial to the soil. This is not only in the soil's structure and nutrients, but also in enzymatic activity. Here, soil fertility is increased, which is greatly beneficial, in turn, to the next round of cropping that takes place. With this, the soil is naturally replenished of its physical and chemical properties because of the rotational system, where available nutrients such as potassium (K), nitrogen, and phosphorus are more present. Similar to Yang (et. al) and Wang's (et. al) articles, there was numeric value associated with the benefits of crop rotation, which held that diversifying crops held crop yield increases of 14% and biodiversity levels of 24%, as compared to standard monoculture-levels in the same general region<sup>55</sup>.

One interesting item to note about this article is its mention of the history behind crop rotation. The Warring States Period was over 2200 years ago, and this area was certainly not reached (or, at least, largely influenced) by Judaism. Here, there is positive interaction with the environment, in an area that did not practice the Sabbath. This assists in the point that the principles of the ecology of the Sabbath are not uniquely Christian.

Crop rotation demonstrates the principles of the Sabbath, and is inherently connected to these principles in the way that the rest that is provided to the land (by diversifying crops and allowing sections of the land to rest) is not only beneficial to available nutrients in the soil but is also beneficial for microbial communities that are present in the soil. This further relates to the topic, as proven, beneficial scientific

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<sup>55</sup> Ibid.

methods are directly connected to the principles of the sabbatical rest for the land. “Rest” for the land, here, is even further demonstrated by the alternation of crops, rather than fallow years specifically, but is absolutely still a form of rest, as soil depletion—here, nutrient depletion- is especially common when one crop is grown, and is lessened when there is crop rotation, so that replenishing of the soil can occur. This rest is clearly beneficial to the land, as, in each of these studies, there is proven yield increases as well as improved nutrient reserves in the soil.

### *Rotational Grazing*

Similar to the subsection on crop rotation, it is first necessary to define what rotational grazing is, as well as its counterpart, continuous grazing. Here, rotational grazing is a system of frequent movement of livestock through different subdivisions of pasture<sup>56</sup> (USDA). This style allows for the paddocks that are not being grazed to replenish, in turn allowing for the plants to be at grazing-height by the time they are needed for food. From the USDA, there are some detriments to rotational grazing, where there is more labor and supervision required, as well as that water and shade must be available in each of the paddocks<sup>57</sup>. This is in contrast to rangelands, where there is no required ‘fencing,’ as well as that shade and water can be present in one area, instead of present in multiple. The counterpart to rotational grazing is continuous grazing, which is self-explanatory, where there is rangeland that is not in paddocks, and there is not a limitation to the range in which the cattle can graze.

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<sup>56</sup> “Rotational Grazing for Climate Resilience | USDA Climate Hubs.”

<sup>57</sup> Ibid.

In terms of the benefits that are present with rotational grazing, I will discuss the USDA's information, as well as Jacobo's (et. al) scientific article. Here, the USDA found that rotational grazing, in general, provides benefits to the soil and the atmosphere<sup>58</sup>. With this, there are scientific and economic gains that are present, from decreasing soil erosion to reducing carbon emissions and increasing profits. Ultimately, rotational grazing can reduce pesticide usage, as well as decrease greenhouse gas emissions. Because of the reduction in overgrazing, soil erosion is limited, and allows for a healthier overall system.

In Jacobo's article, there is further evidence of the benefits of rotational grazing, where litter cover was higher<sup>59</sup>. This litter cover serves as protection to the soil, by decreasing soil erosion, and therefore allowing soil retention of key nutrients. Along with this, overgrazing in general can influence species diversity and botanical composition. Here, selective grazing, especially in an overgrazing scenario, can lead to lower overall species diversity—which is then in turn not good for the ecosystem, as biodiversity is lowered as well. The general conclusion that was reached in this article was that rotational grazing was fundamentally more beneficial for implementation. The rotational grazing system that was present allowed for foraging-functional<sup>60</sup> groups to grow in population. It is displayed that the changes that were seen between continuous grazing and rotational grazing were an improvement to the overall rangeland's condition, as well as its carrying capacity for species. The stocking rate was 60% higher (better) than the

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<sup>58</sup> Ibid.

<sup>59</sup> Jacobo et al., "Rotational Grazing Effects on Rangeland Vegetation at a Farm Scale."

<sup>60</sup> Ibid.

average stocking rate in the region, so it is clear that replacing continuous grazing with rotational grazing is ultimately beneficial, and equates to increases in sustainability and overall productivity<sup>61</sup>. Here “stocking rate” is:

*the number of animal units per acre for a specified amount of time. Several years of stocking rate, animal performance, and precipitation records can be used to identify levels of stocking beyond which undesirable plant or animal responses begin to occur.*<sup>62</sup>

It is evident that, between these sources, there is even more clarity that rotational grazing is beneficial. The biodiversity increases are ultimately resulting in a more successful and thriving ecosystem, in contrast to the detriments that overgrazing holds. This is obvious in the amount of soil erosion that occurs in periods of overgrazing, which is then resulting in less nutrients that are within the soil system. There is an obvious connection here, with the ecology of the Sabbath. Rotational grazing is demonstrative of the principles of the Sabbath as it is portraying how rest is then in turn promoting a healthier environment as a whole. In rotational grazing systems, there are clear benefits, in leading to more biodiversity and less erosion, as well as lowering greenhouse gas emissions.

Rotational grazing as a whole is another way that scientific methods are intrinsically connected to the principles of the sabbatical rest. The prevention of overgrazing that is present is also a connection to the theme of creation-care, as there is ‘kindness,’ here toward the land, by not fully depleting it. The land being allowed to rest in this system is tied with the ecology of the sabbath, in the religious way of the sabbatical year for creation but is also tied with modern environmental practices by the

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<sup>61</sup> Ibid.

<sup>62</sup> “Grazing Pressure and Stocking Rate | National Drought Mitigation Center.”



way that it is wholly beneficial for the environment. The rest is beneficial to the environment as a whole, even despite the labor required for effective implementation of the practice. In the same way as crop rotation, rotational grazing is ultimately beneficial to the land, as has been proven scientifically. Here, though, there is the underlying connection that it has to the Sabbath, which furthers the connection that modern environmental science has with the Sabbath. This furthers the argument that there are inherent connections between what is scientifically beneficial in environmental practices and the religious thought and perspective that is in play.

### *Patch Burn Grazing*

Again, in a similar fashion to the subtopics above, it is necessary to describe what patch-burn grazing *is* before being able to detail how it is inherently connected to the Sabbath. Here, patch-burn grazing (PBG) is “the application of prescribed fires on portions of an identified grazing unit at different times of the year [and it] allows grazing animals to select where they want to graze creating a mosaic of vegetation structures and diversity that will maintain or enhance the wildlife habitat desired for the identified wildlife species and maintain livestock production.”<sup>63</sup> A slightly different definition is provided from Rischette’s study, holding that PBG “divides a pasture into equal proportions (i.e., patches) and burns an individual patch annually to reduce residual vegetation and attract livestock grazing.”<sup>64</sup> Another definition is “Pyric herbivory is the spatial and temporal interaction of fire and grazing, where positive and negative

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<sup>63</sup> USDA, “Strategically Planned, Patch Burning for Grazing Distribution and Wildlife Habitat.”

<sup>64</sup> Rischette et al., “Patch-Burn Grazing Provides Resources for Upland-Nesting Ducks.”

feedbacks promote a shifting pattern of disturbance across the landscape.”<sup>65</sup> Similar to rotational grazing, there is rotation of where the fires take place, which allows for different levels of growth to be in different areas of the total land. There are numerous other benefits as well, which I will touch on in this subtopic, as well as get into how patch-burn grazing is fundamentally connected to the principles of the Sabbath.

There are three studies that I will focus on, coming from key authors Rischette, Ricketts/Sandercock, and Adhikari. Each of these holds a connection to the ecology of the Sabbath, where there is relation to the role that we have in connection with the environment, and how there are benefits to the land because of a healthy understanding of our having dominion. The first two have a similar focus, where Rischette’s study is focusing more specifically on patch-burn grazing’s impact on nesting ducks, while Ricketts/Sandercock’s study holds a focus on small mammals. These are comparable, however, especially with consideration to Adhikari’s study, where the researchers focused on landowner’s behavior. Adhikari’s (et. al) study is inclusive of multiple different topics, but I will specifically be drawing from the conversation that is put forth regarding patch-burn grazing.

In Rischette’s article, there is a broad statement regarding PBG, that it has generally been promoted as being a multi-use land management practice<sup>66</sup>. Here, it can essentially help to restore “vegetation structural heterogeneity and subsequently increase diversity of higher trophic levels, such as grassland birds.”<sup>67</sup> Immediately, we see that

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<sup>65</sup> Fuhlendorf et al., “Pyric Herbivory.”

<sup>66</sup> Rischette et al.

<sup>67</sup> Ibid.

there is great potential with PBG, not only with helping grassland birds in general but also increasing diversity on a larger scale. Along with this, there is discussion on grazing habits, where it was found that patches that have a high YSF, or, years since fire, ultimately have reduced grazing activity.<sup>68</sup> Here, vegetation structure is altered, and distinct patches are formed, where the greater YSF patches are not only less diverse, but also are not attracting grazers. With this, Rischette's study found that the distribution of fire and grazing using a patch-burn grazing system enable greater niche differentiation—and, in result, provide a more diverse community.<sup>69</sup>

PBG, especially with Rischette's article, is seen to promote diversity in general, but also allow for habitat increases. This patch-burn grazing system is displaying the interconnectivity of the ecology of the sabbath even with just this study, where the positive interaction that the humans are having with the environment (in form of prescribed burns) is leading to a healthier ecosystem. Though not a definitive 'rotation' there is certainty shifting of which patches are prescribed the burns, so this is rotation in that sense. Without a doubt, though, there are times of rest that the land is allowed.

Rischette's article continues, with discussion on how this more directly applies to grassland birds. Here, the research displays that PBG-pastures can actually "support a more diverse grassland bird community by creating a mosaic of distinct habitat patches along a postfire and grazing gradient resulting from successional stages of vegetation structure."<sup>70</sup> There is a key point here, with two sub-points that I see in this portion that

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<sup>68</sup> Ibid.

<sup>69</sup> Ibid.

<sup>70</sup> Ibid.

relate to the ecology of the sabbath. The first that I see is the direct impact that PBG pastures have on the populations of grassland birds, where there are key habitat patches that are produced from the growth post-burn, as well as the staggering of the burns.

This ties to the second point that I see, which is that of the ‘mosaic’ that is created. Perhaps more of a stretch, but there is certainly an aspect of beauty that is connected with the word mosaic. The mosaic that is created here is in terms of the growth that is happening, with different sections being at different stages of regrowth in terms of their capabilities to support grazing. Here, though, there is a beautiful connection with this mosaic back to its ability to support grassland birds in the form of providing habitat. With this, the key point that I see with this passage is that there is interrelationship between the land, animals, and humans, in a positive way. There is beauty in this, not only in the words used to describe the process, such as it being called a mosaic, but also there is beauty in how it connects various species and humans.

Along with this, there is the conclusion that PBG can ultimately provide attractive areas for ducks, and that the mosaic that is formed has a two-fold effect. The mosaic that is created is further detailed, where the shorter and greener vegetation that grows post-fire attracts the livestock, while the unburned patches grow taller – and have less grazing pressure – and therefore accumulate fuel load for the next burn.<sup>71</sup> The land management system of patch-burn grazing is not only providing habitat for nesting birds but is also, as seen in Ricketts & Sandercock’s article, a source of habitat for small mammals. This study also displayed some insight on the differences with patch-burn grazing and annual-

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<sup>71</sup> Adhikari et al., “Understanding Behavioral Intention of Landowners to Promote Wildlife Richness and Biodiversity in the Southern Great Plains.”

burned grazing, but first, I will look at the research on PBG and its impacts on small mammals.

Ricketts & Sandercock's article describes how, despite PBG not being widely used in private lands, there is great potential that it has in terms of improving overall biodiversity in the area, including birds (seen with Rischette's article), small mammals, herpetofauna, and grassland invertebrates.<sup>72</sup> Here, within the pasture as a whole, patch-burn grazing allows for there to be introduction/growth of 'microhabitats.' The example described is that of the dense litter layer that is created, which is preferred by some ground-nesting birds and small mammals, here, this relates back to the conversation of the mosaic, where there are patches of mature plants that are to be used as the fuel for the next burn—these are the areas that are providing short term habitats for a variety of different species<sup>73</sup>. These short-term habitats are also crucial in the life cycle of some of these species, which require areas of dense litter to fulfill parts such as nesting.

Furthermore, this system of patch-burn grazing has other positive impacts, where there was research conducted on overall resilience of PBG as well. Here, the trial was with a 2-year drought<sup>74</sup>. A 2-year drought in a grassland ecosystem, or, more specifically a tallgrass prairie, is undoubtedly difficult and holds extreme consequences even in resilient ecosystems. Here, though, the PBG system was deemed “an effective management strategy for creating habitat heterogeneity in the tallgrass prairie, even under

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<sup>72</sup> Ricketts and Sandercock, “Patch-Burn Grazing Increases Habitat Heterogeneity and Biodiversity of Small Mammals in Managed Rangelands.”

<sup>73</sup> Ibid.

<sup>74</sup> Ibid.

adverse climatic conditions.<sup>75</sup> Along with this resilience that was found, within the conclusion of this article, there was also found to be strong evidence that patch-burn grazing systems promote diversity of small mammals in general, within the tallgrass prairie ecosystem.<sup>76</sup>

These findings are indicative of the greater theme at play, where there are various management practices that are possible, but there is great research and data that is in support of integrative systems, such as rotational ones. Here, there is direct correlation with using a PBG system and ecosystem resilience as well as habitat increases for species such as small mammals and upland nesting birds. This interrelationship and positive correlation that exists and is pervasive in the ecosystem is further indicative of the direct relationship that sabbatical principles have with modern scientific practices. Here, there is a scientifically beneficial system in patch-burn grazing, which is not only allowing for animals to have appropriate food but is also allowing for habitat to be formed for more species than those that are targeted, in a way.

There is further evidence of this as there is description of the patch-burn grazing system in comparison with the annual-burned grazing system. Ricketts & Sandercock's research on this topic was full, and contained much more than what I am picking from in this subtopic discussion, but the evidence that I am including is representative of the findings as a whole, and even taken 'out of context' is demonstrative of the theme and data that was found. The study describes the methodology first, where there was a patch-burn grazing system that was being compared with a negative control of an annual burn-

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<sup>75</sup> Ibid.

<sup>76</sup> Ibid.

grazed system, as well as a positive control of a 4-year fire-return interval and ungrazed area.<sup>77</sup> It was immediately found that the PBG system created much greater heterogeneity in vegetative structure and composition of plant functional groups, which was ultimately absent in the two control groups that were included.

This is extremely *good* and is beneficial to the environment. There has been mention of the harms of homogeneity, but to reemphasize, homogeneity is highly susceptible to disease/pests, and is also directly displaying the lack of biodiversity in the system—where *high* biodiversity is a positive thing, and *low* biodiversity is a negative thing. The study continues, where “the interaction of fire and grazing had positive effects on both biodiversity and community structure of small mammals.”<sup>78</sup> This was present in both the positive control treatment but was even more present in the PBG treatment of the study. Clearly there is a positive interaction with species diversity, health of the ecosystem, and an integrative management system. Finally, the patch-burn grazed treatment was seen to have created a large ecological niche.

It is obvious, here, that there are numerous benefits from the patch-burn grazing system, and that PBG is ultimately beneficial to assisting in the creation of a healthy ecosystem. Along with this, the PBG system is also allowing for unique habitats to be present, fulfilling a niche.

Furthermore, there are the direct, positive impacts that the PBG system holds on the structural integrity of the pasture itself, where there are numerous benefits to the vegetation, there is a reduction in overgrazing, and continuous secondary succession that

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<sup>77</sup> Ibid.

<sup>78</sup> Ibid.

is taking place, which in turn allows for promotion of heterogeneity in the plants. This, in turn, allows for more ecosystemic resilience to obstacles such as drought and disease. There is another perspective that ties into this topic, though, which was the focal point for Adhikari's research. This perspective is concerning the attitudes of landowners when it comes to practices such as patch-burn grazing systems<sup>79</sup>.

Here, Adhikari's research indicated that there was, very generally, a positive attitude towards "enhancing wildlife abundance through mixed species grazing or prescribed fire."<sup>80</sup> He displays that the landowners are generally in agreement with this practice and the thought behind it, but there is still a disconnect.

This brings us back to the ideas of the interconnectedness that exists, and how there is benefit to adjusting our perspective. With the last point especially, landowners simply adjusting their perspective can allow for significant economic increase, as well as benefiting the land that they own. There are multiple levels to this, where there are benefits to the environment in terms of implementing prescribed fire itself, but also the further 'repercussions' of that decision, where there is an increase in biodiversity as well as habitat for small mammals and upland nesting birds.

There are obvious benefits to PBG, and that it holds principles of the Sabbath. With this, the patch burn grazing system is allowing for rest to be had for different parts of the land. Along with this, there are also the interrelationships that are present that are formed through the system of PBG, where, as was mentioned, niche habitats are able to be formed and accessed. In general, it is clear that a rotational system such as PBG is

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<sup>79</sup> Adhikari et al.

<sup>80</sup> Ibid.



ultimately beneficial to the environment, and its exhibition of the sabbatical principles is clearly seen.

Crop rotation, rotational grazing, and patch-burn grazing all tie together in an interesting way, where they are separately displaying the beauty that is present with the combination of environmental practices and the religious ideals of the sabbath. The *rest* that is accessed is a further demonstration of the *rest* that is ultimately found in the time with God in Sabbath. The rotational systems here are inclusive of just a portion of the rest from the Lord, and are seen to be greatly beneficial in nearly every aspect, from production to biodiversity increases and habitat creation. With this, there is a fundamental truth that is within this, which is the rest that comes from God, and this truth can be seen from any angle, not just a Judeo-Christian view.

### *Farming Practices*

Farming practices are prime examples of the connection that exists between environmental practices and the ecology of the Sabbath. With this, these practices are exemplary in demonstrating the rest that is accessible, as well as the beauty that comes from a correct understanding of our role with dominion. Through these farming systems, there is rest that is accessible primarily in the way that there is ultimately less exertion and depletion due to these methods, in contrast to modern ‘conventional’ systems. Though these are not intentionally displaying the principles of the Sabbath, they are wonderful examples of these principles, and are indicators of them. In this section, I will describe multiple farming practices that are present in modern environmental practice, and how they relate to the ecology of the Sabbath as well as the principles of the Sabbath.

Two key features, here, are the topics of *rest* and *reciprocity*, as well as how *dominion* plays a part.

### *Conservation Tillage and No-Till Farming*

In a similar manner as with the rotational systems, it is necessary to define these terms as they relate to farming practices to then discuss how they are inherently connected with the principles of the Sabbath and the ecology of the sabbath. In this section, the main topics that will be in focus are conservation tillage and no-till farming. These tie together in that no-till farming can be considered a type of conservation tillage, and can be treated in a similar fashion. One of the articles that I will be discussing holds this, that “Conservation tillage methods consist of strip-tillage, mulch-tillage, plant-tillage (tillage during the seeding operation), minimum tillage, no-tillage and zero tillage.”<sup>81</sup>

With this, conservation tillage has a rather broad definition, as it “involves soil management practices that minimize the disruption of the soil’s structure, composition and natural biodiversity, thereby minimizing erosion and degradation, but also water contamination. Thus, it encompasses any soil cultivation technique that helps to achieve this, including direct drilling (no-tillage) and minimum tillage.”<sup>82</sup> One of the main goals of conservation tillage is to “conserve soil moisture and reduce soil erosion by leaving more than one-third of the soil surface covered by crop residues.”<sup>83</sup> No-till farming, on the other hand, is “the practice of never soil tilling before seeding operation. The essence

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<sup>81</sup> Karayel and Šarauskis, “Environmental Impact of No-Tillage Farming.”

<sup>82</sup> Holland, “The Environmental Consequences of Adopting Conservation Tillage in Europe.”

<sup>83</sup> Peigné et al., “Is Conservation Tillage Suitable for Organic Farming?”

of no-tillage is providing the soil surface covered with stubble residue.”<sup>84</sup> Here, it is given that there is a fundamental difference between conservation tillage as a whole and no-till farming. In this section, though, they will not be viewed as distinct-enough to separate, especially as the topic relates back to the ecology of the Sabbath and sabbatical principles.

There is a somewhat diverse set of articles that are included in this section. In no particular order, I will provide a brief statement on what the article is discussing. To begin, Seitz provides a study that is researching how conservation tillage and other organic farming methods contribute to reducing erosion.<sup>85</sup> Holland’s study consists of a review of the present evidence regarding conservation tillages positive and negative environmental effects. In Peigné’s article, there is a theme of looking at the success of conservation tillage with an organic farming perspective, so looking at the potential consequences but mainly weighing what conservation tillage consists of. There is a similar focus for Somasundaram, where there is conservation of no-till farming’s issues, challenges, prospects, and benefits, specifically in South Asia<sup>86</sup>. This holds true for Karayel & Šarauskis as well, where there is a focus on the environmental impacts, both positive and negative, of no-till farming.

This introduction allows for a more integrative assessment while I discuss each of the article's findings, and how they relate back to sabbatical principles and the ecology of the sabbath. In a ranking of four different arable cropping systems, Seitz’s study found

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<sup>84</sup> Karayel and Šarauskis.

<sup>85</sup> Seitz et al., “Conservation Tillage and Organic Farming Reduce Soil Erosion.”

<sup>86</sup> Somasundaram et al., “No-Till Farming and Conservation Agriculture in South Asia – Issues, Challenges, Prospects and Benefits.”

that the usage of reduced tillage can assist in the reduction of sediment delivery, in terms of overall soil erosion.<sup>87</sup> This is a positive finding, where there is seen to be less erosion present in the system, demonstrating that soil is not as depleted. Furthermore, it was found by the study that “a longer lasting soil surface cover throughout the year is one of the main contributions of conservation tillage to soil protection,” and that, overall, conservation tillage allows for reduction in soil erosion “and improves soil structure.”<sup>88</sup> From Seitz’s article, it is seen that there is benefit that comes from the implementation of conservation tillage, especially in the amount of erosion that is being allowed to occur<sup>89</sup>. This is emphasized further in the ultimate findings of the study, that the soil’s structure is improved upon.

These two benefits hold a connection to sabbatical ideals in the form of rest. Here, there is rest in a loose form, which is in the production of nutrients. With this, the soil’s nutrients are not as diminished because of a reduction in erosion. This connects to the ecology of the sabbath, as this is a direct picture of the connection that we have with the land, and our relationship with it. With this topic specifically, a more conservation-minded approach to farming techniques, such as incorporating conservation tillage, is directly linked to our relationship with the land. From seeing the benefits to the land that can occur with this type of farming, it would not only be further beneficial to the land to incorporate this, but also allow us to better interact with the land.

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<sup>87</sup> Seitz et al.

<sup>88</sup> Ibid.

<sup>89</sup> Ibid.

To continue with the discussion, there is a great connection between conservation tillage and the reduction of erosion, as found in the articles that were introduced. This is an interesting connection between erosion and the ecology of the sabbath, as well as principles of Sabbath. It is necessary to further elaborate on this connection before discussing some of the important benefits that conservation tillage holds.

Erosion, for the purposes of this discussion, is essentially the degradation of soil that occurs over time. This erosion is present everywhere and is not necessarily problematic until it is coupled with things that increase the rate of the erosion. These ‘things’ are numerous, and encompass a broad range of topics, but an example of this is poor farming practices. With this example, the poor farming practices can result in the soil’s structure and stability being diminished, so it is more susceptible to erosion, which is where the rate of erosion is then increased. This erosion when it comes to soil is typically in the form of wind and water, where rainfall may lead to soil runoff, or where winds can lead to the topsoil being displaced. When the rate of erosion is high is when this becomes a problem. The erosion of the soil can result in crucial nutrients that are in the soil to be lost.

This is where the connection back to the Sabbath comes into play. The principle of the Sabbath that uniquely pervades into this conversation is that of rest, though this may come across as a bit of a stretch. Under the assumption that erosion is detrimental to the soil, then an absence of erosion is therefore beneficial to the soil, and here is where the rest is seen to be present. There is rest *for* the soil in that there is prevention of erosion, or at least, a portion of the erosion that would otherwise occur.

This draws us back to conservation tillage, which “is primarily used as a means to protect soils from erosion and compaction, to conserve moisture and reduce production costs.”<sup>90</sup> The implementation of conservation tillage is seen to be ultimately beneficial, here, as there is data from several studies that supports the notion that this truly does *protect* soils from erosion, and prevents harm to the soil’s structure. From the same article, Holland presents that conservation tillage was “shown to reduce runoff by between 15% and 89% and within it dissolved pesticides, nutrients and sediments.”<sup>91</sup> Though this is a rather wide range, it is still indicative that this method is benefitting the soil, where there is *retention* rather than *depletion*. Furthermore, one of the studies presents a brief overview of the advantages of a conservation tillage system, where implementation includes “reduced erosion, greater macroporosity in the soil surface due to larger number of earthworms, more microbial activity and carbon storage, less run-off and leaching of nutrients, reduced fuel use and faster tillage.”<sup>92</sup> From this, it is evident that there are numerous benefits besides the base reduction in erosion. This is further related to the ecology of the sabbath through the mention of earthworms and the microbial activity. Here is the addition of the rest of creation involved in the ecology of the sabbath, where the conservation tillage system is not only connecting us to the land but also adding in other organisms into the equation.

One of the main benefits, here, is the overall improvement to soil structure because of conservation tillage. As Holland discusses, this system of conservation tillage

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<sup>90</sup> Holland.

<sup>91</sup> Ibid.

<sup>92</sup> Peigné et al.

can “improve soil structure and stability thereby facilitating better drainage and water holding capacity that reduces the extremes of water logging and drought.”<sup>93</sup> These improvements to soil structure also reduce the risk of runoff and pollution of surface waters with sediment, pesticides and nutrients.<sup>94</sup> With this it is evident that there is not just a base improvement to soil structure, but this improvement also results in further benefits. Drainage and water holding capacity are two aspects of soil quality that have a direct correlation with growth ability for plants like crops. The maintenance of soil structure is also further supported by a unique study of erosion from raindrops.

For no-tillage systems, it was found that the “required kinetic energy of raindrops to disperse aggregates (at the size of 4.7 to 8.0 mm) from no-tillage soils stabilized at water potential (matric potential) of 30 and 155,000 Pa<sup>95</sup>. It was 2–7 times higher than that required for plowed soils.”<sup>96</sup> This is to say that the no tillage system was resisting erosion from rain, which is then impacting nutrient runoff. This was an interesting and very specific study that was conducted but proves the capabilities of conservation tillage from a different perspective. This connects back to the ecology of the sabbath, where there is the interaction between us and the land, which is then allowing for benefits to cultivate in other areas (such as less runoff).

In relation to the ecology of the sabbath, conservation tillage can allow for other benefits as well, where it “has always been a key component, influencing nutrient

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<sup>93</sup> Holland.

<sup>94</sup> Ibid.

<sup>95</sup> Karayel and Šarauskis.

<sup>96</sup> Ibid.

recycling, pests and disease levels, soil moisture and the risk of runoff or leaching.”<sup>97</sup>

Chemical or nutrient leachate into underground water storage can be extremely detrimental, so there is obvious benefit just from this. Along with this, Holland is mentioning that there is pest management because of conservation tillage systems. This, in turn, allows for an even healthier relationship between the landowner and the land, where ultimately less pesticides may be required. Along with this, “traditional tillage systems in the subtropics and tropic regions and with intensive tillage applications will lead to soil degradation and a decrease in crop production efficiency.”<sup>98</sup>

This points out the fact that crop production efficiency is improved in a conservation tillage system, in turn benefitting the landowner. Along with this, conservation tillage, including no-tillage practices, are “self-sustainable system[s] which offer an alternative to crop residue burning.”<sup>99</sup> This holds a connection with a previous subtopic of the benefits of burning, where this system holds some of the same benefits, without necessarily having to commence burning methods. In addition, conservation tillage can improve soil health by “by increasing soil organic carbon (SOC) and aggregation and also conserves soil, water and energy than conventional farming systems.”<sup>100</sup> The outcomes of Somasundaram’s study are extensive, and directly portray that there are numerous benefits to conservation tillage.

The benefits of implementing conservation tillage systems tie directly to healthier embodiment of the principles of the Sabbath and the ecology of the Sabbath. Rest is

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<sup>97</sup> Holland.

<sup>98</sup> Karayel and Šarauskiš.

<sup>99</sup> Somasundaram et al.

<sup>100</sup> Ibid.



evident and permeates within this topic, where the *obstruction* of harm—like erosion— is in itself a form of rest. This is where the Sabbath intertwines with conservation tillage, but there is also the broader relationship that is present which is within the ecology of the Sabbath as it pertains to conservation tillage. Here, there is a clearly defined relationship between the land and its owner. In this, the application of conservation tillage is promoting a positive relationship between these two entities.

The ecology of the Sabbath is connected with these interrelationships, where sabbatical ideals pervade into farming practices such as conservation tillage, and a healthier connection is formed. Not only is this relationship built off of rest, and a healthier interpretation of *dominion*, but this relationship is also *beneficial* to the land, as is seen by the multitude of benefits that I have discussed. Furthermore, these benefits are not restricted to the land, as they ‘circle back around’ and, in turn, yield benefits to others.

As I had discussed, there were numerous benefits that involved other entities within the ecology of the Sabbath—where there is gain to other organisms, such as earthworms, and where the landowners are also benefited, due to some increases in crop production efficiency and potential decreases in the required amounts of pesticides. This also holds great ecological benefits, such as the positive impacts that are provided to nearby water systems (with decreases in soil and nutrient runoff, as well as further protection against leachate).

All of this is in support of the topic, where the initial healthy interaction between the landowner and the land, in turn, holds great and numerous benefits. This healthy interaction, in the utilization of conservation tillage, is reflective of the understanding

(and implementation) of what dominion is truly supposed to be. Besides conservation tillage as a method to see this relationship, there is also the example of integrated farming.

### *Integrated Farming*

Another system that demonstrates this relationship is that of integrated farming. In an integrated farming system, there is a present, healthy, relationship between landowners and land. Integrated farming is a fairly broad field, where they could be defined as “where multiple farming enterprises interact.”<sup>101</sup> Furthermore, these farming systems “are designed so that waste from one component is used as an input for another component.”<sup>102</sup> An example of this could be something like livestock in an area with multiple different crops, where waste from the livestock is then directly influential on the growth of the crops. This could also look like a system of crop rotation, except in the same—rather than rotation by season, there is rotation by strips of land across the area.

In integrated farming systems, the interconnection and interrelationships that are present are displaying the ecology of the Sabbath in form of the benefits that are granted to each of the parts of the system. An example of this system of benefits is seen through a study conducted in northwestern China, where there was “increased root growth and biomass were largely due to belowground interspecies interactions, which promoted soil water and nutrient sharing between relayed crop.”<sup>103</sup> It is immediately seen how this is an

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<sup>101</sup> Archer et al., “Integrated Farming Systems.”

<sup>102</sup> Ibid.

<sup>103</sup> Chai et al., “Integrated Farming with Intercropping Increases Food Production While Reducing Environmental Footprint.”

impactful and positive system, as there is benefit to growth because of the farming method. The study was across 12 years, and 16 different field experiments, and primarily conveyed that integration such as this could benefit smallholder farms across the world.<sup>104</sup> This potential boost is hopeful, and could potentially help to diminish food insecurity levels across the world.

Furthermore, on the more scientific side of this system, there are numerous benefits that relate to the biophysical process that are occurring in these farms. Here, rhizospheric interactions were seen to improve, alongside nutrient sharing and better root penetration; in addition, there were complementary effects seen in these systems, but especially in the systems where multiple crops were planted in alternating rows in the same area.<sup>105</sup> There are clear benefits that are within the system of integrated farming, but there is lack of implementation for this. I see there being two main reasons for this. One is the extensive amount of labor that is required, and the other is in difficulty in harvesting. Large scale farms would have trouble with implementation of this to where it would be economically viable, as there are specialized machines for large scale production, that are not built for multiple crops. The amount of labor is also a large factor, but the labor is seen to, fairly proportionally, lead to benefits of increased productivity and higher net returns.<sup>106</sup>

The benefits of integrative farming are seen, especially on a small-farm scale, and these systems are representative of the ecology of the Sabbath. Within this, there are

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<sup>104</sup> Ibid.

<sup>105</sup> Chai et al.

<sup>106</sup> Ibid.

present and active interrelationships that are beneficial, and the interconnection is representative of a 'higher' system. This higher system is one that is inherently connected with the principles of the Sabbath, and the ecology of the Sabbath in that there is rest that is present, and this system is connected to a truer understanding of dominion. The rest that is seen is similar to how rest was seen in the previous section, where there is rest for the land in the sense that nutrient depletion is not as present. Here, the more present topic is the inherent connection with the ecology of the Sabbath, where there are healthy relationships present, especially seen by the connection between the farmer and the land. Here, even though there may be more labor necessary, there is a fundamentally better relationship that is present, where there is not an effort of exploitation, but rather one that is attempting to allow for healthy relationships to be present (such as between animals and the land). I see a prime example of this as in the realm of coffee, as well as in Robin Wall Kimmerer's *Braiding Sweetgrass*.

*Shade Grown Coffee.* There are two main types of coffee bean production. One is the higher-yielding, sun-grown method, which is more of a 'modern' type of farming, where there are rows of the shrub grown in the open. This method is easy to harvest, and gives a higher overall production, but there is a decrease in the quality of the product. On the other hand is shade-grown coffee, where the shrubs are grown more in their 'natural' environment. Though this provides less production per hectare, the quality of the beans are increased. I will discuss some of the data from 3 different sources to display that there are numerous benefits in implementing the more natural approach in coffee production, as well as display how this topic of shade-grown coffee is connected with Sabbatical principles, including the ecology of the Sabbath.

Shade coffee plantations are seen to “provide on-site ecosystem services, which include maintaining soil quality and species habitats, water provision and purification and reducing surface runoff and soil salinization.”<sup>107</sup> On the other hand, sun-grown farms “involve more capital, higher coffee densities and more chemical use”<sup>108</sup> Immediately, it is clear that the natural way is beneficial to the land around the farm, not just in increasing production.

The ecosystem services that shade-grown coffee, here, are numerous. These services include resilience against climate change trends, by reducing temperatures, ‘included’ pest control (by birds), and the provision of food and other valuable products.<sup>109</sup> The pest control is extremely valuable, both in the ecological sense but also in the economic sense. This is due to not only the cost of biocides but also the inaccuracy of them, whereas many birds have preference of their food—which can include the Coffee Berry Borer. This pest is dangerous to coffee production, and can be difficult to target, especially without causing harm to other beneficial insects.<sup>110</sup> This interaction between the birds and the coffee plant is mutually beneficial—as well as benefiting the farmer—but this relationship is hardly seen in sun-grown farms.

Furthermore, there are some negative impacts that can come from the utilization of sun-grown coffee systems, where “the absence or insufficient use of trees reduces soil health, increases reliance on agrichemicals and misses an opportunity to mitigate rising

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<sup>107</sup> Klimas and Webb, “Comparing Stated and Realized Preferences for Shade-Grown vs. Conventionally Grown Coffee.”

<sup>108</sup> Ibid.

<sup>109</sup> Hernandez-Aguilera et al., “The Economics and Ecology of Shade-Grown Coffee.”

<sup>110</sup> “Coffee Berry Borer (CBB).”

temperatures and climate variability.”<sup>111</sup> The connection to climate change is impactful, where sun grown coffee is not resilient, and even harms the land in the sense of reduced soil health and the usage of manmade chemicals.

The downside to shade grown coffee is the decrease in production, despite the higher quality of the product. To qualify this, one of the articles suggests a mix of the two methods. Especially for smaller farms, they recommend that around forty percent of the farm should be “allocated to shade-grown coffee to maximize intertemporal income.”<sup>112</sup> This was collected by analysis of the production savings from birds, prices for shade-grown coffee, and the yield of shade-grown coffee.<sup>113</sup> A combination of the methods for these smaller farms would allow for higher overall production, while still maintaining some of the benefits that come with shade-grown coffee. Furthermore, a different study found that the coffee plants that were grown in the shade “suffer less from environmental stresses and have higher biochemical and physiological potential for carbon fixation compared with coffee plants grown in the direct sunlight.”<sup>114</sup> There is an emphasis that draws attention to the word *suffer* in this study, which assists in leading into the conversation of how coffee production is connected to the Sabbath.

There is *rest* that is found here, as there is an absence of suffering. The rest that is present in coffee production is similar to the rest seen in integrated farming and conservation tillage, where there is a decrease in the biocide use, and where there is less

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<sup>111</sup> Hernandez-Aguilera et al.

<sup>112</sup> Ibid.

<sup>113</sup> Ibid.

<sup>114</sup> Bote and Struik, “Effects of Shade on Growth, Production and Quality of Coffee (*Coffea Arabica*) in Ethiopia.”

soil depletion. This topic of coffee production is also demonstrative of the ecology of the Sabbath, wherein there are multiple interactions that are occurring.

There is a web of relationships that is created here, as there are relationships formed between the landowner, the land, the coffee plant, and the birds. The shade grown system is representative of a healthier set of these relationships, whereas the sun-grown method is closer to portraying a misconstrued notion of dominion. With this, the shade grown system is not only a healthier one (in regard to the idea of dominion) but is also beneficial for the ecological interrelationships that are in the system.

The interconnectivity between the parties that are in the shade-grown coffee system is wonderfully designed. The benefits that are seen in this system are not only accessible through a lens of Judeo-Christianity, and are clearly seen to transcend this, allowing for a non-religious perspective to still be able to be a part of this wonderfully designed system. This system is just one of many that display the interconnectivity of creation as it was designed. Another such system is one that Robin Wall Kimmerer describes aptly in the novel *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*.

*Robin Wall Kimmerer's Braiding Sweetgrass.* Kimmerer shares her perspective as a member of the Potawatomi Nation, but also as a scientist and researcher. She discusses the gap that exists between religious thought and our scientific world, and along with this she provides an example of the interrelationships within creation. This example that she describes is that of the “Three Sisters,” consisting of corn, bean, and squash plants. In this section, I will use Kimmerer’s language and some parts of this chapter in

her novel to support the ecology of the Sabbath, and how there are Sabbatical principles that are inherently within environmental practices.

There is a great connection between this chapter and my topic of the ecology of the Sabbath, where there are interrelationships between each of the sisters, and their interactions are mutually beneficial. The complementary relationships that are described are in turn reflective of the beautifully designed nature of Creation. Kimmerer uses familial language, here, emphasizing the relationships of these living organisms with each other but also more broadly, of how our perspective can be that of considering these organisms part of the family of Creation, rather than something we are in control of. Along with this, she describes, scientifically, what is occurring in this relationship.

Here, “the sisters cooperate above ground with the placement of their leaves, carefully avoiding one another’s space.”<sup>115</sup> This allows for there to not be interference in the growth with one another, but also serves the purpose of benefitting one another, as the corn allows for light to be available, while the squash squanders weeds. The same is true in the land, where the individual root systems fulfill a niche, and do not get in the way of each other, allowing water access for each of the members. Kimmerer describes another beautiful aspect of this relationships, where the beans provide necessary nitrogen. Through the *Rhizobium* bacteria, nitrogen is fixated, and benefits the corn and squash as well. An important part of this to note is that the three are not necessarily explicitly *working together* but instead, each individual part is doing “what it does in order to increase its own growth. But as it happens, when the individuals flourish, so does the

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<sup>115</sup> Kimmerer, *Braiding Sweetgrass*, 132.



whole.”<sup>116</sup> Kimmerer provides an accurate description of this, here, where “Being among the sisters provides a visible manifestation of what a community can become when its members understand and share their gifts. In reciprocity, we fill our spirits as well as our bellies.”<sup>117</sup>

Potentially the most important word from these parts of Kimmerer’s work is that of *reciprocity*. We see this exhibited throughout the relationship between the sisters, and the benefit that is brought because of this reciprocity. This translates directly to the Ecology of the Sabbath. The relationships that are present in the ecology can also be benefitted through this concept of reciprocity. An example of this *is this chapter*. This chapter has consisted of how more sustainable and ecologically- friendly practices are beneficial to the land, and in turn are beneficial to the landowner who is applying these sustainable practices. A portion of this benefit has been through the natural forms of pest control, rather than biocide application. This too is present in the three sisters’ relationship, as the “diversity of plants also creates habitat for insects who eat the crop eaters.”<sup>118</sup> Here, polycultures such as this “are less susceptible to pest outbreaks than monocultures.”<sup>119</sup> Along with the natural pest management that is present, there is also a contrast between this form of agriculture and modern agriculture. As Kimmerer describes, “in Indigenous agriculture, the practice is to modify the plants to fit the land”

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<sup>116</sup> Ibid, 134.

<sup>117</sup> Ibid.

<sup>118</sup> Ibid, 139.

<sup>119</sup> Ibid.

and, in contrast, “Modern agriculture...took the opposite approach: modify the land the fit the plants.”<sup>120</sup>

This is ultimately reflective of the wrongful understanding of dominion within modern agriculture. Here, the understanding of dominion may be more closely associated with the ideas of *radah*, instead of the beautiful depth of meaning that includes *shamar* and *abad*. Furthermore, the benefits of polycultures are not employed by many of these modern practices, and instead the susceptibility of monocultures is evident. There is a beauty in the interdependence that the Three Sisters have with one another. In realization of this, we can in turn obtain a new perspective of the interconnectivity that exists within the ecology of the Sabbath, assisting in a healthier, fuller, and more harmonious relationship to form.

Kimmerer’s work of *Braiding Sweetgrass* is not revolving around the Sabbath, nor contains a background of a Judeo-Christian perspective. This, though, is further representative that these principles, *of the Sabbath*, are accessible outside of a Judeo-Christian lens. The Indigenous wisdom that is present is revealing the aspects of the ecology that are representative of the Sabbath. Here, there is an inherent connection between the principles of the Sabbath and the Three Sisters, where both are revolving around the ideas of *rest* and *reciprocity*. The reciprocity in the Sabbath is evident, as there is mutualistic benefit to each party through rest.

This chapter of *Braiding Sweetgrass* allows for a new perspective in general, and the blend of indigenous and scientific thought throughout the novel allows for a better understanding of the interconnectivity between us and the rest of creation. Furthermore,

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<sup>120</sup> Ibid, 138.

this perspective allows for certainty in saying that the *principles* of the Sabbath are accessible to everyone, and that everyone can engage with these principles, and witness the beauty in the intricacies of Creation, such as in the rest and reciprocity that is occurring within a system such as between three crops.

Seen by the shade-grown coffee system and the Three Sisters of Kimmerer's work, integrative farming is seen as a clear example of engagement with the principles of the Sabbath and the ecology of the Sabbath. In rest and reciprocity, this is most evident, where there is rest found in the reduction of things like pesticides, and where there is reciprocity in systems of polycultures. The reciprocity extends beyond the plant to plant interactions, and also is mutually beneficial with other creation like the soil or other organisms, as well as benefiting the landowner through items such as higher quality product—or, in the case of the Three Sisters, a diet that fulfills the needs of the human body. Displayed by the Three Sisters is a series of interactions that are connected to the principles of the Sabbath. This is in part due to the lack of pesticides that are needed and applied, which ties us to the next section of organic farming.

### *Organic Farming*

I will discuss this topic in a similar fashion to the previous ones, where it is necessary to provide what organic farming is, as well as its benefits, in order to then make a connection to the Sabbath and the ecology of the Sabbath. In doing so, it will be made evident how there is an inherent connection that is present, as well as how there is access to the ideals of the Sabbath through a scientific lens.

It is difficult to define exactly what organic farming is, as there is debate and regulations that contribute to the 'confusion' of the term, but can be considered a system

to primarily deliver chemical-free food to consumers.<sup>121</sup> This is much more of a consumer-focused definition, so I think it is necessary to provide one that is more biocentric from the EPA. The EPA considers organic farming as food grown and processed using no synthetic fertilizers or pesticides, and where pesticides from natural sources may be used in production.<sup>122</sup> I think this definition is more apt, and applicable to this thesis, but further there is a definition provided by one of the scientific articles I will be discussing. Here, organic farming is defined as a “holistic production system that considers long-term environmental sustainability and primarily aims to produce food in an environmentally friendly manner.”<sup>123</sup>

I will not disregard the more consumer-centered definition from Seufert, as I think it is still important to keep in mind. For the purposes of this topic, however, organic farming should be considered as a mix/combination of the two latter definitions.

In terms of the benefits that are provided, I will discuss some of the findings of the different research that is present. Broadly, integrated, agro-ecological, pest management, and particularly organic farming are the most important ‘sustainable’ agriculture systems introduced in recent years.<sup>124</sup> Along with this, the expansion of these systems could “contribute to a more sustainable food system, as its negative impacts on the environment at the local level are generally lower than those exerted by the average conventional agriculture.”<sup>125</sup> This provides some context on the topic, where these

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<sup>121</sup> Seufert, Ramankutty, and Mayerhofer, “What Is This Thing Called Organic?”

<sup>122</sup> US EPA, “Organic Farming.”

<sup>123</sup> Jouzi et al., “Organic Farming and Small-Scale Farmers.”

<sup>124</sup> Ibid.

<sup>125</sup> Martín-García, Gómez-Limón, and Arriaza, “Conversion to Organic Farming.”

sustainable systems are seen to hold less negative impacts, as well as that they are regarded as well-known and important.

In general, some of the environmental benefits include “biodiversity conservation, better quality of soil, reducing evaporation and water harvesting, strengthening adaptation strategies and reducing greenhouse gas emissions as well as energy efficiency.”<sup>126</sup> This immediately is a great overview of the benefits that are clearly seen in the research of organic farming. Along with this, the reduction of greenhouse gasses is extremely important, especially in the current climate situation. Furthermore, there is reduction of soil erosion because of the diversification of soil-food webs, which in turn is improving nitrogen cycling, and protects water supplies within the soil.<sup>127</sup> It is evident that there are numerous benefits in water resource protection and in terms of soil quality benefits. Additionally, it is seen that there are benefits in the realms of energy and biodiversity. This is clear in a study by Fuller, where, especially in plants, it was seen that organic farming was associated with higher biodiversity levels.<sup>128</sup>

Biodiversity increases in a system such as this may assist in providing environmental resilience, especially against things like disease to the crops that are being grown. In terms of energy, a study in Central Europe displayed that energy use and fertilizer inputs were reduced by anywhere from 34% to 53%.<sup>129</sup>

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<sup>126</sup> Jouzi et al.

<sup>127</sup> Ibid.

<sup>128</sup> Fuller et al., “Benefits of Organic Farming to Biodiversity Vary among Taxa.”

<sup>129</sup> Jouzi et al.

A difference in the required fertilizer input on this level is directly pointing to some of the key benefits in an organic farming system. This is demonstrating not only the decrease in required fertilizer input, but also is reflecting on the capabilities of organic farming, where the soil may be more self-sustainable. The energy requirements are less overall, reflecting on rest that is present, as organic farming is seen to be less demanding.

There are numerous benefits gathered from implementation of an organic farming system, especially in terms of water conservation, decreasing soil erosion, biodiversity increases, and less fertilizer required. In a similar way to the previous topics and subtopics, organic farming is seen to relate to the principles of the Sabbath in the conversation of rest. There is rest that is evident and present in this system, especially because of the reduction of energy required (and in the reduction of fertilizer input).

Organic farming is a direct demonstration of our relationship with the land. There are multiple factors within this, largely revolving around the concept of *dominion*. A *misunderstanding* of dominion can be seen in many aspects of modern, ‘inorganic’ farming practices, where exploitation is evident. The use of organic fertilizer and pesticides are in dynamic contrast to the overuse of biocides that are present in ‘inorganic’ farming. In organic farming systems, the disuse of biocides is apparent, and is seen to hold numerous benefits for the land, as was seen by the scientific articles previously discussed.

Within this, we play an integral role in determining whether or not there *is* connection to the ecology of the Sabbath and Sabbatical ideals, based on how we interact with the land—which is impacted by how we view the concept of dominion. The

connection to the Sabbath in organic farming is seen by the rest that is accessible—in everything from reduced soil erosion to less energy ultimately being required.

### *Chapter Conclusion*

This chapter's purpose was to discuss different environmental practices and perspectives. This, in turn, allowed for conversation to arise about how these practices are connected to the Sabbath, in terms of its principles as well as the ecology of the Sabbath. Here, these practices are inherently connected to the principles, where the concepts of Sabbatical *rest* and *reciprocity* are evident in each of the systems. Along with these things, the topic of dominion was apparent in many of the subtopics, especially as it applied to a misinterpretation of dominion in our modern systems of exploitation, overuse, and degradation.

In the rotational systems and the different farming systems, a correct understanding to our role within the ecology is extremely impactful to the system as a whole. In line with a biblical understanding of dominion, there is a thriving state that is reflective of the natural beauty in which the system was designed. Along with this, this beauty is not solely accessible in a biblical perspective, but rather is accessible by any and all who engage with these methods. This is seen by the scientific perspective from studies across the world, as well as through other religious perspectives—such as the one provided by Kimmerer. The rotational practices and alternative farming techniques are clearly seen to be beneficial to the environment, with the downside of them being a higher level of required labor, and a decrease in the ultimate levels of production (though these differences were slight). The benefits that are held go further than just for the land, as there are so many instances where the benefits hold reciprocal effects towards the

other interactions. These are evident especially with the ‘collaboration’ that occurs between the land and other organisms, where biodiversity levels are seen to increase with most of these systems, as well as growth in niche habitats.

The ecology of the Sabbath consists of the land, organisms, time, us and God. It is abundantly clear that modern environmental practices hold each of these entities *except for God*. This is a massive oversight, especially when it comes to Christians that are engaging with the other entities within the ecology. There is a gap here, as there is a system that is built off of, and displaying the beauty of God’s creation, yet there is lack of engagement with the Creator. This allows for there to be conversation regarding what environmental practices do *not* contribute to the ecology of the Sabbath, and how they can be *not* related to Sabbatical ideals.



## CHAPTER FIVE

### Garden City and Application for Man

#### *Introduction*

To begin this chapter, I will continue with where I left off with Chapter 4, where there is a gap that is evident, as God is not actively included in modern environmental practice. Here, even though there is connection to each of the other entities of the ecology of the Sabbath, there is a lack of inclusion of God. In addition to this, and more broadly, I will discuss how modern environmental science and practices do *not* contribute to the ecology of the Sabbath. Furthermore, I will discuss how we, as modern Christians, can better relate to the Sabbath, and engage with the principles of it and the ecology of the Sabbath. I will provide a broad conclusion, referencing some of the key connections that I have found throughout the process.

There is a gap that exists within this topic. There is a system that exists because of the Creator, and it is beautifully designed, reflecting the glory of the Creator, *yet*, there is an overall lack of focus and engagement *with* the Creator. This is especially evident with how modern environmental practices leave out God in the ecology of the Sabbath. This could be, in part, because of how secular the field of science is, but also could be driven by money. With this, practicing the Sabbath as a landowner in a farming system would ultimately lead to a decrease in production. By looking further into how we as humans interact with this topic, we may be able to further see *why* God is ‘left out’ of the anthropocentric (misconstrued) ecology of the Sabbath.

This ties to how these modern practices do *not* contribute to the ecology of the Sabbath. Initially, this is seen by how the ideals of rest and reciprocity are left out. Modern practices are immediately deemed to not contribute because of the motivation behind them, to produce as much as possible. Herein lies overuse and exploitation of the land, with the large amount of nutrient input also as a factor. This ties to the topics of rotational and sustainable systems, and how modern practices are in contrast to these, where there is no presence of rest, and instead, all of the land at the owner's disposal is used year-round, and in form geared towards production rather than what is healthiest for the ecosystem.

Rest is, in most cases, not accessible for the land in these modern farming systems—this is in contrast to the rotational systems I discussed in Chapter 4, for example, where there is rest that is allowed to portions of the land. Along with this is the reciprocity factor. Here, because of the nature of the farming methods, there is similarity to the subtopic of the coffee bean industry. Within this, the modern farming practices are closer to the sun-grown coffee plants. In correlation with this, there is very little reciprocity within the ecologic web of relationships – going back to the coffee industry example, there is a fair amount of reciprocity in the shade grown systems, because of the involvement of other entities.

Along with modern practices 'disregarding' rest and reciprocity within the ecology of the Sabbath, there is also the fact that these often overlook humans—in general, but mainly in terms of their vocation. I have seen this firsthand in my classes that revolve around the environment, through high school and college. Humans, when mentioned, are often included as the manipulators of the systems present, rather than being an integral

and potentially *good* part of the ecology. With this, a lot of the discussion surrounding the interactions between us and the environment is based on the bad things that are caused by us, and it seems to be relatively rare for there to be focus on the *good* that we cause.

The overlook of humans' vocation is an interesting topic as well, as it brings us back to what our vocation *is*. When there is a biblical understanding of our vocation there is collaboration, in a way, between our role and our *calling*. Here, there is the overarching position that we have, in relation to each of the other entities within the ecology of the Sabbath, but there is also the desire that we hold. This calling varies greatly between people, but, within the confines of the ecology of the Sabbath, this calling may bring us back to the biblical perspective that we hold on what we are 'called' to—by God. This brings us to the next point, of how we as modern Christians can embody, interpret, think about, and grow because of the ecology of the Sabbath. I will elaborate further with discussion of John Mark Comer's *Garden City*.

### *Garden City*

Comer provides discussion on two words that I will provide here. These were discussed in Chapter 2, but it is necessary to revisit them, as Comer helps in the application of these words for Christians. The first of these words is *radah* (*rāḏâ*) and the second is *shamar* (*šāmar*). *Radah* is the Hebrew word for rule, and it can be translated as 'reign' as well as to 'have dominion.' Comer writes that this is "king language" and "one Hebrew scholar translated it as 'to actively partner with God in taking the world somewhere,'" Comer writes that "That is a seriously great way to put it."<sup>130</sup> This brings us back to the topic of dominion, and our role within the world. Here, we can be

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<sup>130</sup> Comer, *Garden City*, 41.

enlightened by the fact that we are partnering with the Lord in taking care of the environment, rather than there being the pressure of us doing it by ourselves. In *partnering* with God within this, we can better see His will – especially when it comes to how we should relate to the environment, and how we can embody the role of having dominion.

The other word that Comer focuses on is *shamar*, related to. Here, this is translated as “take care,” and Comer writes that this is “spot-on.”<sup>131</sup> He continues, elaborating that it means “to watch over, protect, guard, police, and stand up for the creation.” and states further that “The first human was an environmentalist. We should be too.”<sup>132</sup> These words in collaboration with one another beautifully depict what I have been attempting to display, where our role is to be a guardian of Creation, in which our role of dominion transcends that of holding power over, but is instead allowing for a relationship with God within it. God has ordained us to be environmentalists, and to *care* for Creation, in a way that in turn allows for growth in our relationship with the Creator.

Within this relationship with the Lord, and partnering with Him, we can be more equipped in sharing the Gospel. Here, Comer describes that “As people made in God’s image, we can join him in this ongoing creative work. As his partners, *we* can reshape the raw materials of his world in such a way that people see the beauty *behind* the beauty.”<sup>133</sup> Furthermore, Comer brings up a point that I displayed within Chapter 3, that God’s intricate design within environmental practices *reflects Him*. He writes that “The invisible

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<sup>131</sup> Ibid, 58.

<sup>132</sup> Ibid.

<sup>133</sup> Ibid, 122.

God's *presence* and *beauty* are more than visible – they are glaring and inescapable.”<sup>134</sup>

God's presence and beauty are inherently within these sustainable practices that I mentioned, but further, these are within all of Creation.

When it comes to how we as modern Christians should go from this, there is a lot within Comer's work that demonstrates this, and is written more eloquently than perhaps I would be able to write. Comer talks about how our work *should* be conducted, in a manner that glorifies the Lord. Here, our work is an example of our place within the ecology of the Sabbath, as the way that we compose ourselves in work and on Sabbath should be reflective of how God worked, and how God Sabbath-ed. Modern Christians can learn a lot from this, where, by engaging with these times in the same manner that our Father did, we may be able to hold a closer bond with Him. The interrelationships with the Sabbath are not strictly tied down to what happens in the time of Sabbath, but also by what occurs in the rest of the time—in the times of work.

Comer describes this that “*what* you do can be done for God's *kavod*”<sup>135</sup> where *kavod* is essentially “God's significance.”<sup>136</sup> He elaborates further, describing what occurred between us and the ground because of our sin, where our relationship with it was cursed by God, and “What was once life-giving, is now exhausting, hard, and difficult.”<sup>137</sup> This may translate to how we interact with the other entities within the ecology of the Sabbath, as this work is *laborious*. But, this is also indicative of what our

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<sup>134</sup> Ibid, 123.

<sup>135</sup> Ibid, 125.

<sup>136</sup> Ibid, 115.

<sup>137</sup> Ibid, 160.

work *can be*. Comer writes to look at Ecclesiastes, and that “this is what work looks like if we do it apart from God.”<sup>138</sup> In this, we can be intertwined with work that is glorifying to the Lord, but the effort must be made to do this. This allows us to see what the time of work can potentially be, and now we will shift to a focus back to the Sabbath, specifically, but still focusing on Comer’s words.

Comer displays this well, where “God works, so we work. God rests, so we rest.”<sup>139</sup> We are made in the image of God, so we do this. Creation reflects the Creator as well, so there is rest that can be allowed by humans if there is an appropriate understanding of what rest is, and why it is so valuable within the Sabbath, and *as* the Sabbath. As part of Creation, the Sabbath has a “life-giving ability to procreate – to fill the world up with life.”<sup>140</sup> With this, then, how can we as modern Christians experience this life, and engage with the Sabbath? Comer provides an answer of sorts to this, where “For six days we wrestle with the world of space... But on the Sabbath, we savor the world of time.”<sup>141</sup> Savoring the world of time is interesting to think about, especially with how we could possibly do this well. Comer describes this, where “On the Sabbath, you rest, and you worship. That’s it.”<sup>142</sup>

Resting and worshiping are prime examples of how we can savor the world of time. In doing so, we can be more closely connected to the Lord, by imitating the rhythms of Creation that he initially made. Norman Wirzba adds to this, where, as we

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<sup>138</sup> Ibid, 169.

<sup>139</sup> Ibid, 186.

<sup>140</sup> Ibid, 189.

<sup>141</sup> Ibid, 190.

<sup>142</sup> Ibid, 193.

“fail to appreciate and observe the Sabbath, we are prone to spoil the work of God’s hands and exploit the work of each other.”<sup>143</sup>

This is how we can apply the ecology of the Sabbath to our lives, where a recognition of our position as partners with God can allow for us to more fully engage with Creation. An appreciation and observation of Sabbath can allow us to not spoil relationships within the ecological web, and where an understanding of how we are made as reflections of the Lord – and following through time in a reflection of rhythm He created – can allow for us as modern Christians to grow in our relationship with Him.

In terms of how Christ’s coming has altered the Sabbath, Comer describes that “It is true that we’re no longer under the Torah, and it’s also true that the Sabbath is the only one of the Ten Commandments not repeated in the New Testament. But even so, the Sabbath still stands as wisdom...

You can skip the Sabbath – it’s not sin. It’s just stupid.

You can eat concrete – it’s not sin. It’s just dumb.”<sup>144</sup>

Engaging with this *wisdom* of time of rest can allow us to grow as Christians in our relationship with our Father. As Comer puts it, it’s just stupid to skip the Sabbath, as this is a time that we are able to fully engage with our Creator and match his rhythm, as well as further understand our place in the ecology within the time, where the interrelationships present are directly portraying how we view our faith<sup>145</sup>. Comer continues, stating that “The point is that there is a way the Creator set the creation up to

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<sup>143</sup> Wirzba.

<sup>144</sup> Comer, 195.

<sup>145</sup> Ibid.

thrive. A way that God set *you* up to thrive. And when we Sabbath, we tap into God's rhythm for human flourishing."<sup>146</sup> God in His *glory, goodness, and kindness* has set up a system of work and rest so that we may be further connected with Him, and if we engage with the system of wisdom, we can *flourish*.

In Comer's work lies how we can better participate in Sabbath, and how we can further engage with the principles of it. Within this, there are direct applications to the ecology of the Sabbath, and how we can engage with it. Understanding our role – with the words of *radah* and *shamar* – partnering with God in Creation and reflecting the rhythms that he designed are all wonderful ways that we as modern Christians can grow in our relationship with Him. In this, we can further understand where we lie in the ecologic web that exists, and furthermore can interact with the other entities within the ecology of the Sabbath in a better way.

### *Gaps, Key Connections, and Conclusions*

To start this section I will provide a brief overview of some of the gaps that exist within this project. Before I approach this in a chronological manner, by chapter, I broadly will state that, upon reflection of my thesis, I would have loved to discuss Wendell Berry, Norman Wirzba, and Ellen Davis's many books. I love each of their writing styles, and though I discussed some of their contributions to this topic, I could have easily written several chapters on what they have to say. This is a portion of my thesis that will continue to grow far beyond the extent of the project, as continuing to read these scholars' works will contribute to, and elaborate upon, the intricacies of this thesis topic.

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<sup>146</sup> Ibid, 196.



To begin with more methodical approach to my limitations, I will begin with Chapter 2, which consists of an overview of the Sabbath in the Jewish tradition. A key gap in my discussion within this chapter is that I maintained a focus on Heschel, and his book *The Sabbath*. Because of this, the intricacies of the Jewish belief system are not focused on conclusively, but rather through what I learned and saw through Heschel's perspective. In addition, I am not particularly well-studied on the Jewish faith as a whole, and focused on the Sabbath within the tradition, rather than researching further about minor details in the religion. In Chapter 3, I discussed the Sabbath with how it has been changed with the coming of Christ. In comparison with Chapter 2, this held more sources, but there is still the limitation that this is not conclusive of the resources that are 'out there'. In a similar fashion to Chapter 2, however, there was a Biblical focus, which allowed for me to not have to heavily rely on outside sources. In this, though, there is a limitation in my usage of the Word, where I used the English Standard Version (ESV). I chose this due to personal preference, but also as a means to be closer to word-for-word translation, rather than a more thought-for-thought translation such as NIV. There is a limitation within this, as I am unfortunately not drawing from the original Greek and Hebrew, so slight differences in meanings may be evident. I attempted to counter this with inclusion of these original words, especially in the key points that I was making.

In Chapter 4, I focused on the rotational systems and farming techniques that are examples of how environmental practices are inherently connected with the principles of the Sabbath and therefore the ecology of the Sabbath. A lot of the sustainable methods that I looked at held some limitations. This was due to the methodologies of some that were fairly limited in their range of study, or for example, a lower number of trials.

Along with this, many of the studies held that, for these sustainable systems, more labor in general is required, and ultimately, there are some decreases in the levels of production that are found—such as between sun-grown and shade-grown coffee. In this Chapter, there is the limitation that I am relying heavily on John Mark Comer. Though his work is directly applicable and articulated well, there is still the limitation of sorts that I am not including other perspectives, or even his other works. These are the general gaps that exist in this thesis that I feel are relatively impactful in terms of the strength of this project, but overall, these limitations are not damaging to the points I have made.

This thesis began with discussion on the Sabbath in the Jewish and Christian perspective. In Chapter 2, I mainly approached the conversation of the Jewish tradition through the lens of Abraham Joshua Heschel's *The Sabbath*. This allowed for a great perspective, albeit somewhat limited, and enabled us to gain 'background' information. With this, I was enlightened to any aspects of Jewish faith and tradition, and this further allowed for a 'setting of the stage' for Chapter 3. In Chapter 3, I discussed some of the ways that the coming of Christ 'changed' the Sabbath. By 'changed,' I mean how there was fulfillment of the Sabbath, and Sabbatical practices. Here, the coming of Christ added to the ecology of the Sabbath itself, in terms of adding another entity. Along with this, Christ's coming allowed for the practice of the Sabbath to be 'optional' in a sense, where as Comer described, it is the only of the Ten Commandments that was not listed in the New Testament. This is not, by any means, indicative that it is wise to skip over the Sabbath, but instead allows for us to partake in the Sabbath in an even more beautiful way. In the sense that it is optional, opting-in to engaging with the Sabbath allows for a closer relationship with the Lord.

In Chapter 4, I took a rather large step back, looking broadly at how there is the ecology of the Sabbath, the series of interrelationships that exist within the time of Sabbath, and how this ecology is inherently connected to some environmental practices. This is a visual representation of the beauty of Creation, where there is access to the principles of the Sabbath within our relationships with the rest of Creation. In this, I discussed systems such as rotational practices, and how these are not only demonstrative of our relationship with the land (in a healthier understanding of our role as having dominion), but also these systems are inherently connected to the Sabbath in that there is *rest* that is evident in the system. I elaborated on this with other farming techniques, and Comer beautifully connects this entire chapter to the ecology of the Sabbath in that he writes that “The invisible God’s *presence* and *beauty* are more than visible – they are glaring and inescapable.”<sup>147</sup> The presence and beauty of the Lord are *inescapable* in the world, with these systems that I discussed being examples of this. Along with this, the fact that this is inescapable brings us back to how God is accessible by more than just the Christian perspective, and non-Christians have the opportunity to see the beauty of the Lord within this. The rotational systems and farming techniques that I mentioned demonstrate the beauty of the Lord, rest, and also provide examples of a better understanding of our role within the ecology of the Sabbath, as caretakers and guardians, working as *partners* with God.

Lastly, here in Chapter 5, I have discussed Comer’s *Garden City*. Comer does a wonderful job of articulating how we as modern Christians can move forward. Comer discusses how we can better engage with the Sabbath, grow in our relationship with the

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<sup>147</sup> Comer, 123.

Lord, and understand our position within the ecology that is present. As it has been mentioned, though it is not sinful (anymore, because of Christ) to ‘break’ Sabbath, it is a fundamental part of our relationship with the Lord, and can allow for so much growth.

In engaging with the rhythms that the Lord designed for us, we are able to more fully participate in the ecology. Here, we can hold a better understanding of our role as partners with God, in Creation, engaging in *work* and *rest* in a manner that reflects Him. Our lives should change because of this conversation, where we may grow in our relationship with God through Sabbath and engaging with the ideals of the Sabbath. In this, we may grow by participating in the rhythm of life that the Lord created. Regarding the ecology of the Sabbath is a means by which we can partake in this rhythm, where we may be a part of the beauty and grow in our connections with each of the entities within: The Lord, time, land, and animals. Keeping the Sabbath, wherein we *rest* and *worship*, can allow for us as modern Christians to grow in our relationship with God. With this, an understanding of our position within the ecology of the Sabbath can allow us to properly exercise *radah* and *shamar*, strengthening our bond with the Creator, as a beloved and wonderfully made piece of His creation.

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