

# An Appeal for Sobriety

Science is finally catching up to some of the messages given by our prophet. Have you ever wondered why Christians shouldn't ingest things like alcohol, nicotine, green tea, coffee, etc.? As Seventh-day Adventists, many have heard that Ellen White condemns the use of these hurtful indulgences. Yet, so many people, including pastors, believe the warnings against coffee and tea are the ramblings of an old woman. We will be taking a biblical and scientific look at some of these substances. Note the following statement:

"The first number of the *Testimonies* ever published contains a warning against the injudicious use of the light which is thus given to God's people. I stated that some had taken an unwise course; when they had talked their faith to unbelievers, and the proof had been asked for, they had read from my writings instead of going to the Bible for proof. It was shown me that this course was inconsistent and would prejudice unbelievers against the truth. The *Testimonies* can have no weight with those who know nothing of their spirit. They should not be referred to in such cases."—*Councils for the Church*, 95.

Unfortunately *many Seventh Day Adventists know nothing of the spirit of their own prophet.* We will take the Protestant approach; as Protestants our doctrines are based on the Bible and the Bible only. We will prove Ellen White is teaching a scriptural doctrine.

Jesus reveals some beautiful and often misunderstood truths in *Matthew 15:11*:

"Not that which goeth into the mouth defileth a man; but that which cometh out of the mouth, this defileth a man."

Food cannot make someone unclean. It's what comes out of the mouth that defiles a person. This statement has been used to excuse all manner of disobedient and sinful indulgences. It is the verse of choice for those whose god is their belly. They seem so certain and indignant when they quote it, calling

others, who don't agree, "weak in the faith" or "legalistic." A simple question sweeps away all of their self-deception: Does what you ingest change what comes out of the heart? Not one honest person can look at someone who is drunk and say *no*. **Alcohol is not the only substance that loosens the tongue**, notice this statement about caffeine and tea.

"When these tea and coffee users meet together for social entertainment, the effects of their pernicious habit are manifest. All partake freely of the favorite beverages, and as the stimulating influence is felt, their tongues are loosened, and they begin the wicked work of talking against others. Their words are not few or well chosen. The tidbits of gossip are passed around, too often the poison of scandal as well. These thoughtless gossipers forget that they have a witness. An unseen Watcher is writing their words in the books of heaven. All these unkind criticisms, these exaggerated reports, these envious feelings, expressed under the excitement of the cup of tea, Jesus registers as against himself. 'Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto Me.' [Matthew 25:40]."—*Christian Temperance and Bible Hygiene*, 36.

I have heard some amongst our brothers and sisters, those that buck at the yoke of temperance say "Is there a command of God that says 'Thou shalt not drink coffee.'" The answer is a resounding **Yes**:

"Be sober, be vigilant; because your adversary the devil, as a roaring lion, walketh about, seeking whom he may devour."—*1 Peter 5:8*.

Sobriety or being sober is a state of mind maintained by not drinking alcohol. Alcohol is classified as a **psychoactive drug** (a drug that affects our words and behavior). This is what God is warning us against. Our minds, specifically the **prefrontal cortex** (part of the brain in the forehead), is the battleground of the great controversy. God desires us to rea-

son (Isaiah 1:18), and choose (Joshua 24:15), which takes place in the prefrontal cortex. Satan knows reason is the power of God, it is his studied efforts to keep people from reasoning. If he cannot make them unreasonable he will stir them up to reason against God. Anything that affects the prefrontal cortex to change or modify our words, moods or reactions removes sobriety from us, giving Satan an advantage, and in some cases even direct access to our minds. **Sobriety includes not taking any psychoactive compounds**, they are all wrong and dangerous to use. Not just *psychoactive* compounds *but anything, music, meditation, chanting, etc.*—that puts the frontal lobe into an unnatural state is placing your thoughts and choices into the hands of the enemy of mankind. Alcohol is not the only drug that removes sobriety. It isn't even the most common, that would be caffeine. Let us take a scientific look at a few of these compounds to see how they affect the brain.

### **A simple understanding of how the brain works.**

There are two kinds of brain cells, **neurons** (*the primary signaling cells*) and *glial cells* (*these cells support and protect neurons*). Neurons have **synaptic vesicles**, (*a space that stores the chemical messengers that are sent to other cells*). The passing of chemical signals is called *exocytosis*, and the chemical signals passed are **neurotransmitters** or “*cell messengers*.” There are different kinds of cell messengers: *Excitatory, Inhibitory, and Modulatory* transmitters. **Modulatory** transmitters do not directly activate the receptors of brain cells but work together with neurotransmitters to enhance the **excitatory** (exciting) or **inhibitory** (stopping) responses of the receptors (*modulatory neurotransmitters include dopamine and serotonin*). These cell messengers (*excitatory, inhibitory, and modulatory*) are stored in the *synaptic vesicles*. Basically each *neuron* speaking to another *neuron* has warehouses (*synaptic vesicles*) that hold chemical messengers (*neurotransmitters*), the warehouses pass messages to another *neurons* “command

center” via receptors and this is how the brain communicates. The command center and warehouse are extremely close to one another, but are parts of two different neuron cells.

When the messengers are sent, not all are received. The messengers that are unable to enter the receptor (*because its full or for another reason*) either get broken down by enzymes (*PDE's discussed later*), float away, or *reuptake* occurs (*The messenger returns to a cell's warehouse*).

The action of sending messages uses **ATP** (*Adenosine Triphosphate*) for energy. The brain eats off the *phosphate*, leaving **adenosine** as the byproduct. The command center has receptors for *adenosine* and, as they are filled, they tell the command center how much work has been done. You can consider *ATP* as batteries that become *adenosine* as they are used. During sleep they are recharged back to *ATP*.

The command center has to translate the chemical message it receives from the warehouse into an electrical message, so the rest of the *neuron* can understand. To do this, it uses translators called *cyclic nucleotides*. **Cyclic nucleotides** are secondary messengers; they convert the chemical signal of the “first messenger” (hormones and neurotransmitters) into electric signals which the rest of the *neuron* can understand.

To simplify this: The brain communicates when *neurons* send chemical messengers to other *neurons* which are received and then converted into an electrical message, so the rest of the receiving *neuron* can know what to do.

### **Your brain on Caffeine**

Caffeine (*other names: Guaranine, 1,3,7-trimethylxanthine*) antagonizes (*works against*) *Adenosine* receptors. *Adenosine Triphosphate (ATP)* is involved in storing and releasing energy; when the brain breaks *ATP* down for energy, the byproduct is *adenosine*. *Adenosine* binds to the *Neurons adenosine* receptors. These receptors, when filled, begin to slow areas of brain activity which eventually makes us feel tired. While we sleep, the brain converts *adenosine* back into *ATP* or *re-*

*charges our batteries*, essentially eliminating our desire for sleep. Caffeine competes with *adenosine* to bind to the brain's *adenosine* receptors; thus, the body does not know it is tired, even though it is consuming energy. This happens because the receptors are full of an empty message. This causes the brain to be temporarily excited to unusual levels of action; it thinks it has unlimited power.

*Adenosine* antagonism also affects the *central nervous system* (CNS). The blockage of *adenosine* receptors indirectly affects the release of neurotransmitters such as ***norepinephrine*** (which increases alertness, arousal and attention, and constricts blood vessels, which helps maintain blood pressure in the times of stress), ***dopamine*** (which regulates mood, affects muscle movement and plays a vital role in the brain's pleasure and reward systems), ***acetylcholine*** (which is a chemical substance secreted at the ends of nerve fibers and is responsible for the transmission of nervous impulses), ***serotonin*** (which plays a key role in such body functions as mood, sleep, digestion, nausea, wound healing, bone health, blood clotting, and sexual desire), ***glutamate*** (which is an excitatory neurotransmitter, in excessive amounts it causes anxiety, restlessness, impulsivity, night awakenings, while also increasing movement and motor control), and ***gamma-aminobutyric acid or GABA*** (which functions to reduce excitability of neurons by stopping nerve transmission, and is known for producing a calming effect). The release of these neurotransmitters results in a feeling of euphoria and the excess serotonin increases happiness. An increase in these neurotransmitters alters mood, memory, alertness, and cognitive function.<sup>2</sup> It increases oxygen consumption in the neurons and decreases cerebral blood flow by 26% ± 8% for a 150 pound person consuming 170 mg of Caffeine.<sup>1</sup> *There is every reason to believe that larger doses decrease blood flow by more; since large doses are known to be more neurotoxic.*<sup>3</sup> 400 mg is the daily recommended limit for most adults. This effectively starves

the neurons of oxygen resulting in cell death. Large or repeated doses of caffeine are both alike known to be neurotoxic.<sup>3</sup> This means it kills brain cells, specifically the primary signaling cells; *neurons*.

When the caffeine binds to the Adenosine receptor, its as if the messenger delivers an empty packet. Adenosine continues to build up while the receptor is full of caffeine; and, when the caffeine is finally cleared from the receptors, there is a rush of exhaustion likely caused by the receptors suddenly receiving large amounts of adenosine.

*“Coffee is a hurtful indulgence. It temporarily excites the mind to unwonted action, but the after-effect is exhaustion, prostration, paralysis of the mental, moral, and physical powers. The mind becomes enervated, and unless through determined effort the habit is overcome, the activity of the brain is permanently lessened.... Those who use tea, coffee, opium, and alcohol, may sometimes live to old age, but this fact is no argument in favor of the use of these stimulants. What these persons might have accomplished, but failed to do because of their intemperate habits, the great day of God alone will reveal.”—Christian Temperance and Bible Hygiene 35.*

May the mockery of our prophet cease.

The Liver breaks caffeine down, with the chemical half life ranging from 2-12 hours<sup>5</sup> (how long it takes to break it down). Caffeine itself is not addictive, however *paraxanthine* is,<sup>4</sup> The liver breaks 80%-84% of caffeine down into *paraxanthine*<sup>5</sup>; which has many similar effects to those of caffeine and, consequently, daily caffeine consumption generates high levels of both caffeine and *paraxanthine*, which actively affect us. Milligram for milligram on the ICSS scale (Used to measure an addiction profile) *paraxanthine* is half as habit forming as Cocaine.<sup>6</sup> *Paraxanthine* accumulates in the plasma (like caffeine) and this process helps caffeine remain in the body longer. *paraxanthine*'s plasma levels decrease more slowly than that of caffeine, and become higher 8-10 hours after drinking caffeine. This suggests that *paraxanthine* is in your system nearly a day after drinking a

4 cup of coffee.<sup>5</sup> In this way, repeated doses of caffeine increase *paraxanthine* levels in the body to noticeably neurotoxic levels. There is little doubt in my mind that a single cup of coffee has neurotoxic effects.

The consumption of caffeine is certainly a sin by God's standard.

"If any man defile (ruin, shrivel, spoil, destroy) the temple of God, him shall God destroy; for the temple of God is holy, which temple ye are."—*1 Corinthians 3:17*.

### Your brain on L-theanine

**L-theanine** (other names: *L-gamma-glutamylethylamide* or *N(5)-ethyl-L-glutamine*) is another psycho active stimulant found in Oolong tea, Black tea, Green Tea (*Matcha, Gyokuro, Sencha*), and some mushrooms. These teas also contain caffeine, but it has been noted that *L-theanine* while not eliminating the toxicity of caffeine, it does decrease it.<sup>7</sup> This is also noted in the writings of Ellen White:

"Tea is poisonous to the system. Christians should let it alone. The influence of coffee is in a degree the same as tea, but the effect upon the system is still worse. Its influence is exciting, and just in the degree that it elevates above par, it will exhaust and bring prostration below par. Tea and coffee drinkers carry the marks upon their faces. The skin becomes sallow, and assumes a lifeless appearance. The glow of health is not seen upon the countenance."—*Councils on Health, 87*.

Here we see she recognized tea as less poisonous than coffee which is supported by science. As *L-theanine* is a stimulant, it borrows energy from somewhere; thus it robs the body of vitality. There are many active compounds in tea; green tea extracts are known to cause *hepatotoxicity* (*Liver damage*) and even DNA damage.<sup>9</sup> Though it is mentioned, no studies show specifically how the toxicity and damage are caused by green tea extract. *L-theanine* has also been found to increase levels of *GABA* (*gamma-aminobutyric acid*), *serotonin*, and *dopamine*. Alcohol's intoxicating effect is caused by an increase in *GABA*<sup>8</sup> Giving evidence that tea has an intoxicating

effect. This was mentioned by Ellen White, note the following statement:

"Tea is a stimulant, and **to a certain extent produces intoxication.** It gradually impairs the energy of body and mind. Its first effect is exhilarating because it quickens the motions of the living machinery; and the tea drinker thinks that it is doing him great service. But this is a mistake. When its influence is gone, the unnatural force abates [decreases], and the result is languor [weakness, fatigue] and debility corresponding to the artificial vivacity [pep, liveliness, energy] imparted. The second effect of tea drinking is headache, wakefulness, palpitation of the heart, indigestion, trembling, and many other evils."—*Christian Temperance and Bible Hygiene, 34*.

She seems to be describing the effects of excess glutamate. Regardless, all doubts of her inspiration must reasonably be surrendered. This information came from a woman living in an era when mercury was prescribed as a remedy and bleeding was a common treatment for sickness.

The primary method of action for *L-theanine* is to antagonize (*works against*) *glutamate receptors*, this is scientifically viewed as a good thing. **Glutamate** is the most abundant free amino acid in the brain. Despite this, *glutamate* has excitatory effects on nerve cells; and it can excite cells to their death in a process now referred to as "*excitotoxicity*."<sup>10</sup> This is the reason *monosodium glutamate* is known to kill brain cells as it is able to cross the **blood brain barrier** (*a layer of tightly packed cells that make up the walls of brain capillaries and prevent many substances in the blood from diffusing into the brain*) and increase levels of *glutamate* in the brain. I could not find any studies showing whether or not antagonizing *glutamate receptors* increases *glutamate* in the brain. For that matter, even the studies admit very little has been done to understand the effects of *L-theanine*; and it largely remains a mystery. *L-theanine* is known to increase *alpha waves* in the brain,<sup>11</sup> this is a desired effect of spiritist though they often attain this through chanting, meditation, etc. Increases in *alpha waves* is believed to increase the capacity to intake information

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and learn. To sum it up, here are the reasons *L-theanine* is bad. It robs the body of vitality through its *stimulating effects*. It is intoxicating to a certain degree. It may increase glutamate making it neurotoxic though not to the extent of *caffeine*. It promotes alpha waves which is something Spiritists desire; people who want to be closer to Satan like its effects.

## Your brain on Chocolate

Chocolate, also known as *Cacao Theobroma*, is classified as *psychoactive*. *Theobroma cacao* seeds and cocoa beans are used to make chocolate liquor, cocoa solids, cocoa butter, and chocolate.

Let's look at the psychoactive compounds in Chocolate<sup>12</sup>:

Sites of pharmacological activity for methylxanthines

Site of Action	Caffeine	Theophylline	Theobromine
Brain	1 <sup>2</sup>	2	3
Skeletal muscles	1	2	3
Heart	3	1	2
Kidneys	3	1	2
Bronchioles	1	1	2

<sup>1</sup> Modified from Tarka, 1975.

<sup>2</sup> Potency based on a comparison of caffeine, theophylline, and theobromine: most potent = 1; least potent = 3.

Chocolate contains many beneficial active compounds, however three compounds present a problem. *caffeine*, *theobromine*, and *theophylline*.<sup>12</sup> All three of these compounds cross the *blood brain barrier* and antagonize adenosine receptors.

**Theobromine** is the most abundant *methylxanthine* in chocolate next to caffeine. *Methylxanthines* are a group of *phytochemicals* (a chemical naturally occurring in a plant) present in tea leaves, coffee beans, and co-

*coa beans*. They have clinical use (the direct medical treatment or testing of patients) because of their bronchodilatory and stimulatory effects. (Bronchodilatory: causing the expansion of the bronchial air passages. It can also refer to a drug that relaxes the bronchial muscles, which results in the expansion of the bronchial air passages.) Theobromine is the weakest of the *methylxanthines*, possessing only modest activity at all sites of action.<sup>13</sup> Central nervous system stimulation (the damaging effects of stimulants) is thought to be the least effective of the three *methylxanthines*. Theobromine is a *phosphodiesterase (PDE)* inhibitor.<sup>14</sup> **Phosphodiesterases (PDEs)** are the only superfamily of enzymes that have the ability to break down *cyclic nucleotides*. Since *Theobromine* keeps the brains' translators from being broken down, the result is an abundance of translators; this improves brain communication. Studies indicate *Theobromine* does not influence mood and vigilance (*common side effect of adenosine antagonism*) when administered in nutritionally relevant doses, despite sharing many of caffeine's structural characteristics.<sup>15</sup> (Personally I have a hard time believing theobromine doesn't influence mood, since chocolate is a common comfort food, because it makes people feel good.)

Whether or not chocolate is addictive is a point of debate. One study which I have not been able to find again, drew inconclusive results. This was because the control group that, after daily consumption for a time, were not allowed chocolate, broke into the chocolate containment and ate it all. Researchers admit that, similarly to other addictive things, chocolate may evoke *psychopharmacologic* (changes in mood, sensation, thinking, or behavior) and behavioral reactions in susceptible per-

6 sons.<sup>20</sup> Women were classified as susceptible persons because of the hormonal fluctuations during their monthly cycle. According to the researchers, Chocolate helps balance low levels of neurotransmitters involved in the regulation of mood, food intake, and compulsive behaviors (*modulatory neurotransmitters such as serotonin and dopamine*).<sup>20</sup> Thus we have evidence that Chocolate does affect mood. It is highly likely that *methylxanthines* are at least partially responsible for this. As previously discussed, antagonism of adenosine receptors indirectly affects the release of neurotransmitters including dopamine and serotonin. Since *theobromine* is a *methylxanthine*, it antagonizes adenosine receptors.<sup>21</sup> I have noticed evidence of harmful effects is often overlooked and rarely mentioned in research on these compounds; the focus is mainly on benefits. Occasionally, there is an admission of the truth.

The mechanism of action of ***theophylline*** is unclear, although a significant body of evidence points to an involvement of *PDE* inhibition.<sup>16</sup> This is the same mechanism of action previously discussed in *theobromine*. *Theophylline* also relaxes the smooth muscle of large and small airways in humans and animals. Its relaxant effect is relatively independent of adenosine antagonism, suggesting it physically effects the smooth airway muscles.<sup>17</sup> All *methylxanthines* cause this relaxing effect, which is believed to be responsible for seizures in patients without known underlying epilepsy. *Theophylline* is known to be an added risk factor for making seizures worse in patients with epilepsy. Adenosine receptor antagonists caused by all methylxanthines generally make seizures worse.<sup>18</sup> I know a person with epilepsy who was told, by her doctor, to drink caffeine because it would improve their condition, which is not true.

How much is too much? Considering consumption of the methylxanthine caffeine is classified by Ellen White and the Bible as a sin:

“Tea and coffee drinking is a sin, an injurious indulgence, which, like other evils, injures the soul. These darling idols create an excitement, a morbid action of the nervous system; and after the immediate influence

of the stimulants is gone, it lets down below par just to that degree that its stimulating properties elevated above par.”—*Counsels on Diet and Foods*, 425; *Temperance*, 80.

The only safe course of action is complete abstinence. Following is a table detailing the amount of methylxanthines in different kinds of chocolate.<sup>19</sup>

Source (Mg per Gram)	Caffeine	Theobromine	Theophylline
Raw Paste	5.6	33	0.2
Roasted paste	0.33	36	Trace
Cacao	2.4	26	No check
Cacao Butter	0.4	0.14	No check
Cacao (Powder?)	0.489	4.621	Trace
Baking Chocolate	1.58	10.04	Trace
Milk Chocolate	0.056	1	Trace
Dark Chocolate	0.625-0.875	5-7.5	No check

The recommended dark chocolate serving is 30-60 grams. 60 grams of dark chocolate has 37.5 mg of caffeine and 300 mg of theobromine. A recipe for double chocolate chip cookies I found (the first one listed online) has 20.2 mg of caffeine and 128.1 mg of theobromine per cookie. The cookies were 35-40 grams each from 1.5 tablespoons of batter using baking chocolate. A serving of basic homemade brownies has 32.5 mg of caffeine and 214.5 mg of theobromine. Chocolate has a lot more methylxanthines than expected. The “healthy” cacao bars have significantly more methylxanthines. A serving of 90% cacao at 40 grams has 86.4 mg of caffeine and 936 mg of theobromine. This is more caffeine than a cup of coffee, and an enormous amount of theobromine. The liver breaks these down into other methylxanthines, whose effects have not been researched, but they are all known to be adenosine antagonizers. As far as the research field goes, caffeine’s metabolite paraxanthine is the only researched metabolite that is known to be addictive. Theophylline has some very bad side effects at clinical doses, however there are only trace amounts in choc-

olate which makes it unworthy of discussion.

### Origins of Chocolate

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Cacao was first cultivated in South America.<sup>22</sup> Chocolate is made from the fruit of cacao trees, which are native to Central and South America. The Maya people considered it the food of the gods from which it gets its name. [The Maya people of Yucatán live in the Yucatán Peninsula, which includes the Mexican states of Yucatán, Campeche, and Quintana Roo, as well as the country of Belize.] Theobroma, in Greek means, “food of the gods.” (In Greek, “theo” means “god” and “broma” means “food”); and, for centuries, that is exactly what chocolate has been known as.

The Aztecs associated cacao with the feathered serpent god, Quetzalcoatl. (The Aztecs live in Mexico.) Quetzalcoatl wears the breastplate ehecacozcatl around his neck, which is “the spirally voluted wind jewel.” [Voluted: around-and-around, scroll-shaped form] And Quetzalcoatl also symbolized patterns witnessed in hurricanes, dust devils (a tall column of air which spins round and round very fast and moves across the land or sea), seashells, and whirlpools. The name, Quetzalcoatl, means quetzal feathered serpent. The quetzal bird, in Central and South America, has a brilliant green, red, and white plumage and, in the male, long tail feathers. The Aztec god, Quetzalcoatl, was known to have control of the air as the deity of wind and rain. The Bible tells us the feathered serpent is known as the “prince of the power of the air” (Ephesians 2:2)—a title that Satan seems to not mind using. According to their legend, it should be understood that Aztecs believe Quetzalcoatl was condemned by all the other gods for sharing “the food of the gods” with humans (*certainly reminiscent of the lie “Ye shall be as Gods”*) Unlike the Maya of Yucatán, the Aztecs drank chocolate cold for spiritual and medicinal purposes.

The Maya had an equivalent god called Q’uq’umatz, a serpent with Quetzal feathers; his name means “sovereign plumed serpent.” While not responsible for directly giving chocolate to people, he is the god worshiped as the creator, with a story of creation very similar

to the Bible, yet very different.

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From these stories, one must conclude that chocolate has supernatural origins, as is the case with many other drugs. Chocolate has to be processed in a specific way to be used, a way that mankind would not naturally think of. These names and legends make references to Satan. A Christian would recognize Satan as the one who gave Cacao to the ancient Central America civilization. Satan has been trying to usurp the place of God since he was cast out of heaven; it should not be a surprise, that he takes upon himself the title of creator. Any gift from Satan is one that Christians should naturally seek to avoid; many prefer to accept it and even give it to their children.

### Conclusion

We have seen scientific evidence that the warnings of Ellen White are accurate. We have seen what God thinks of these things. We know, from what Jesus says, that these foods can affect our salvation; for they have the ability to loosen our tongues and cause us to do and say things we should not. It is our Christian duty to resist the devil, but we can only do so if we maintain our sobriety. God gave us a warning more than 100 years ago; now science gives us the same warning. Why is it that so many persist in their self-destructive habits? God isn’t asking us to give up something good; these substances will destroy the body and contribute to an eternal destruction. Let’s not be like Esau, who sold his birthright for a bit of food. I pray that we each make and maintain wise choices. Heaven is cheap enough; it only costs everything that is bad for us.

*For a finished work,*



**Jonathan Taylor**

*Wisdom is justified of all her children. -Luke 7:35*

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