



The Science of Dreams and Biochemistry of Midnight: A Questionnaire Study

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Abstract

Although dreaming is personal myth experience occurring in the inner world of the person while sleeping there are quite a few features and symbols regarding dreaming that is deserving being measured and investigate and may help in treating a lot of psychological diseases. The present study using, literature data, questionnaire, and the interview with 50 people to interpreting and understanding the science of dream. And to extract some form of dream story including dream recall, nightmares, lucid dreaming, philosophy towards human dreams, and the effects of dreams on awakening life. We also try to draw some dream of our participates. Our finding reported that Some dreams are a message from God. Some dreams are you're talking to yourself during sleep; it is a psychological and biochemistry evaluation or great expectation to yourself. Sometimes the dreams try to give you the solutions or warning about some problem or stress that annoyed you. One of the dreams function is to stay our brain active all the time. If the dreams stop, this is meaning the brain is inactive and we are in a coma, the brain cannot stop off. Encourage people to recall happy midnight dream and dream daydreaming by telling and writing about it will help people to modulation brain memory and develop some creative persons.

Keywords: *Dream; Questionnaire; Biochemistry; Stress; Nightmares; Lucid dreaming.*

Introduction

Dreaming is an individual experience occurring during sleep and, thus, a very personal experience that is only available if the dreamer recalls the dream experience Upon awakening. Therefore, studying dream recall is a significant topic in dream research, for example, measuring home dream recall frequency using questionnaires and dream diaries or to increasing dream recall by awakenings from REM sleep in the sleep laboratory [1-4]. Most recently dream investigation directed on the evaluation of dreams contents by questionnaires, interview and applies it in many treatment procedures. This kind of surveys attempts to measure general patterns of dream content and are more comfortable and less time-consuming than assembling

and scoring dream diaries. However, they have rarely been psychometrically estimated. The similarity of the use in a therapeutic context and the evidence of a connection between waking and dreaming experience can support the rationale for a dream questionnaire in many recent examinations [5,6].

In the present study, we are using survey, draw some dream and do interviews to understand and give the explanation about many questions. Is a dream a memory or biochemistry or message? We shall see in this work, midnight dreams, daylight dreams and examples of the scientific study of dreams. Some dreams are a message from God. Some dreams are you're talking to yourself during sleep; it is a psychological and biochemistry

evaluation or great expectation to yourself. Sometimes the dreams try to give you the solutions or warning about some problem that annoyed you. Some dreams are from Shaytan. To illustrate, we are going to sleep, our minds and our feelings in dimensions other than that we know are awake, and it is the people who think in his sleep events that may occur after hours and days or months, so where were we during sleep? The open door without condition. Scientists think dreams function is to stay our brain active all the time. If the dreams stop, this is meaning the brain is inactive and we are in a coma. The brain never turns off. We can't be shut down like a computer or robot. In science opinion, the brain uses their storage image from real life by fragment compressed images to keep the mind busy and work all the time, by that way the brain makes a dream as a useful way to brain health. God knows I cannot interpret dreams to anyone. Both of us can follow the events that followed their dreams and his hopes goodness and God willing. Every man is a doctor to himself every human being is an interpreter for himself. There are no constants, no one would explain to anyone dreams, except the mercy of my Lord and God knows. You can't have a dream in real life, so you will try to achievement in midnight dream or daylight whatever it will be even; both are good for your health, both may give you hope [1-6]. Your dream doesn't have an expiration date take a deep breath and try again. So, there is no way to achieve your dream in real life in this world, so go to sleep and dreaming; you will have got all desires, shall we dream.

Material and Methods

Subjects Characteristics

A total of 50 adult's volunteer included in this study including me (the Author). All subjects were recruited from the period (2000-2018). The studies were done according to Helsinki Declaration.

Questionnaire and Interview study about dreams

Data were collected from the volunteers that accepted to participate in the study using questionnaires according to [7,8]. We selected group randomly to tell their dream and represented by drawing.

Questionnaire Sample of questions

1. Have you recalled your dreams every day?
2. How deep are your dreams emotionally?
3. What is the emotional tone of your dreams in common?
4. How often have you experienced nightmares recently?

5. If you currently feel nightmares, how distressing are they to you?
6. Do you experience recurring nightmares that associate to a situation that you have experienced in your waking life?
7. How many of your nightmares are repeated ones?
8. How often do you feel so-called lucid dreams?
9. How often do you tell your dreams to others?
10. How often do you record your dreams?
11. How often do your dreams influence your mood during the day?
12. How often do your dreams give you creative ideas?
13. How often do your dreams encourage you to identify and solve your problems?
14. How often do you experience Déjà vu?
15. Can you write and/or draw your dream?

Notes

- Nightmares are dreams with strong negative emotions, and sensation that results in awakening from the dreams. The dream plot can be recalled very clearly upon awakening.
- In a lucid dream, one is aware and conscious that one is dreaming of the dream. Thus, it is probable to wake up deliberately, or to influence the development of the dream actively, or to follow the course of the dream calmly.
- During a déjà vu experience, one is established one is reliving real-life situation that was before experienced in a dream.

Stress Impact Questionnaire

No single question of questionnaire proves how subjects are experiencing stress, but by looking at the results of groups of items about (physical indicators, sleep indicators, behavioral indicators emotional indicators, personal habits), it may be possible to determine what areas of the life stress affect the most. The score is calculated after defining the fields by the figure the circled numbers in each part and mark the point total for each section and the subjects are asked [What the type of your dream? Did you experience all the time nightmares dreams when you are under stress?]. The questionnaire will show how stress affects different parts of subject life, started from very low to danger. [9-11].

The Questionnaire results and discussion

Table 1 showing the result of the answer to the dreams questionnaire of the group of the participants in the present study. The result showed that about 50% could recall their dream every day and 90 % have emotional

effect experience. Dream recall has been confirmed via various means, often relying on self-report judgments and represent waking memory that indicated that dream could mean and help in the management of remembering behaviors [12-15].

It produces significant indication and may depend on “awareness of dreaming,” “dream sensations upon waking that showed 90%” “déjà-states, that showed 80 % of answered by yes or positive response during the dreams questionnaire. It also depended on “comprehensibility of dream content, that showed 10% both by write or draw dream contents” and “senses of a dream that showed 90% by the effect on their mood” of answered by yes or positive response during the dreams questionnaire.

Table 2 demonstrates the Stress questionnaire with Nightmares the type of dream that felt under stress. The present result reveals that 98 of participants have Nightmares at any time during their sleep when there are under stress. This result agrees with the previous study that reported that therefore novel in indicating the context of autobiographical memory for dreaming and trying to solve and determine the problem and stress in human life; these results suggest that dream and stress study can be revealed evidence to study and management memory and psychological disorders [12-15].

Examples and draw of some participants midnight dreams: Some are divine communications, and others are Pipe dreams, Some Interpretations.

a. Color and clothes, the dream of the wearing (2006: 2017)

The dreamer is he\she the only able person to analyse his\her dream. Any individual can follow the next event to his\ her life and take a mark if he sees something remarkable in the dream. For example, in this case, in the dream, if she sees herself wearing something she will expect a significant event in her life. She always follows the events after dreams that happened to me for a long time, and every symbol gives the same experience that will be expected to be by 90 percent, and the God knows. Pipe dreams or false hope can come to us every day in our night dreams, but a private message can come from God to the only moral people like the gift from GOD to us, God known.

Indeed, dreams have many symbols such as clothes, colors, foods, trees, cars, animals, exams, names, fly in dreams and others. For instance, the colors in the dream have an indication of emotion, mood, event that you may be expected to happen or other, may be feeling in real life. In my opinion, color came to say something to us as I will mention, there are new dimensions in the universe that do not see it yet, those aspects may go in now dreams in shape of color, for examples, when we were wearing clothes or shoes in color.

For instance, one of our participants have dreamed wore five beautiful dresses in a period of her life until the moment, as, she remembers, and only one time she dreamed wore shoes. The first dress was color light orange peppered with golden rays which make it shiny and calm, after that, she takes her master's degree between 21 to 24 years old. After a short period, she dreamed wore light brown in yellow shoes and Gold necklace and earrings; she has got married after that dream to the kindest and lovely husband in that world. She dreamed with the second dress as a beautiful white dress.

After that dream, she performed a pilgrimage, went to a lot of international conferences, and learned a lot of new skills that enable her to write books that were in late 2015 and early 2016 approximately. The third dream in the middle 2016 when she was in France in summer, she dreamed wore a lovely blue dress that dress covers everything she feels comfortable, but she was looking to something during that dream, and she still looking until now. She dreamed by dresses fourth and fifth in one dream; she guesses that was nearly 2017 or at the last days in 2016. She dreamed wore in the first part of the dream with the beautiful shiny golden dress that she did not see it in her astonishing life beauty before, but, she sensation angry at that part of the dream.

At the end of the dream, she wore a gorgeous white dress in beauty and looked like she was dissolved for the feeling of anger to serenity. In Feb 2017, she dreamed wore very elegant coat may be brown and stunning Hijab in black. Today she was waiting for something great and until that day comes, she still writing, because beautiful clothes mean great expectation to herself, maybe yes, maybe no, God known. But she precisely believes in that. In this case, dream gave the participant female hope to live and go in their life with high expectations and considered an effective therapy to decrease life stress.

Table 1: The dreams. Questionnaire.

Sample of questions	Answer (%)		
	YES	Sometimes	NO
Have you recalled your dreams every day	50	40	10
How deep are your dreams emotionally?	90	10	0
What is the emotional tone of your dreams in common?	90(Very intense)	10 (Quite Intense)	0
How often have you experienced nightmares recently (about once a week)	90	10	0
If you currently feel nightmares, how distressing are they to you?	100(very sad or distressing)	0	0
Do you experience recurring nightmares that associate to a situation that you have experienced in your waking life?	85	10	5
How many of your nightmares are repeated ones?	85	10	5
How often do you feel so-called lucid dreams?	80 two to three times a month	20 several times a week	0
How often do you tell your dreams to others? [two to three times a month]	80	10	10
How often do you record your dreams? [two to three times a month]	80	20	0
How often do your dreams influence your mood during the day?	90	10	0
How often do your dreams give you creative ideas?	50	30	20
How often do your dreams encourage you to identify and solve your problems?	50	10	40
How often do you experience Déjà vu ?	80	15	5
Can you write and/or draw your dream?	10	10	80

b. Arts are naked dream (all the time before 2016)

One of our participates always dream partly naked maybe she feels unsafe, scared to misunderstand, and she wants to change her life, God known. If the dream is good and you wake up happy, so tell that dream to people you love only. If the dream is terrible and you wake up a scar, such as you are dreamed naked or run without shoes or other badness, please, don't tell that dream to anyone. The bad dreams are from Shaytan. We can stop bad dreams by saying "I seek refuge in perfect words of Allah from the evil of what He has created" and extrude on the left hand three, God known. On the other way, we try to find something that stresses on us and remove it from our lives, a lousy dream come from chronic stress.

c. Fly in dream (2017)

Another one of our participates she dreams that she flies to the top of the castle of Disneyland and see all beautiful color of castle very bright and amazing. And see great seeing from up there, top of the castle, beautiful picture to the water that under the castle, she feels very extremely happy there on the top. Today she is just waiting for

something great and until that day comes, she still writing about her dreams and hope, God known.

d. Bad dream (Brother drown) in 2009

In the 2009-year, Brother drowned dream. I dreamed three days before my brother Abdallah Hamouda died. My dream has three scenes:

The dream scene number 1, I saw in my dream that I was in a boat in canal looking for my brother between dead drowning people, the dead people rise their hand up, and I was looking for him.

The dream scene number 2, I saw in my dream that my father was a beach of the sea with a lot of people, waiting for a ship or something come from the sea.

The dream scene number 3, I saw in my dream that my family and I were in mosque give bread to people.

After three days approximately, my brother drowns in a canal and we are looking for him for more than 24 h and then we go to the mosque to pray a Funeral prayer, and

my dream is a message from God. Oh God, have mercy on my brother and grant us a good end, Amin. Figure 1 shows some of my drawings to represent my dream.

Note: If I find a dead person in my dream, and after I wake up I do in real life after a few h or days a person dies close to the deceased person who I saw in my dream, God known. Asmaa Hamouda.

Table 2: The Stress Questionnaire with Nightmares.

	Subject stress levels score		Stander score measure PERSONAL STRESS LEVELS [...ref]				
	Mean ± SD	P	Very Low	Medium	High	Very High	Danger
Physical Indicators Point Total	64 ± 3.02*	0.020	22	30	38	48	54+
Sleep Indicators Point Total	16 ± 4.01*	0.03	5	8	10	12	14+
Behavior Indicators Point Total	53 ± 1.02*	0.01	18	27	36	45	50+
Emotional Indicators Point Total	52 ± 7.02*	0.05	21	29	37	46	55+
Personal Habits Point Total	30 ± 2.02*	0.090	9	15	20	25	30+
Type of dream that reported and experience under stress	98 ± 0.08 of participate have Nightmares at any time during their sleep						
Data was expressed using Mean ± SD; *: Statistically significant at p ≤ 0.05							

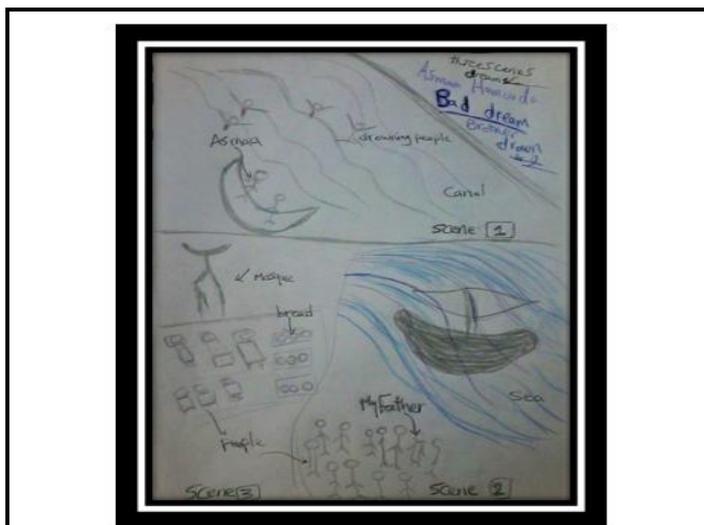


Figure 1: In the 2009, Brother drowned dream. I dreamed three days before my brother Abdallah Hamouda died. My dream has three scenes: The dream scene number 1, I saw in my dream that I was in a boat in canal looking for my brother between dead drowning people, the dead people rise their hand up, and I was looking for him. The dream scene number 2, I saw in my dream that my father was a beach of the sea with a lot of people, waiting for a ship or something come from the sea. The dream scene number 3, I saw in my dream that my family and I were in mosque give bread to people. After three days approximately, my brother drowns in a canal and we are looking for him for more than 24 h and then we go to the mosque to pray a Funeral prayer, and my dream is a message from God. Oh God, have mercy on my brother and grant us a good end, Amin. The drawing is done by Asmaa Hamouda, God known.

Conclusion/Discussion

The studies of dreams are considered midpoints for the prevention/management memory and psychological disorders. And the present results confirm that Encourage personages to recall felicitous midnight dream and dream daydreaming by telling and writing about it will assist people to sound brain memory and reveal some invention and creative persons. From the present work, the dream is considered as the only window to people to achieve their hopes.

When I was younger, I am always happy; if I have just the little small window to see the world through it, such as radio, story or a dream, to me, it is enough. Now, in spite of, I see a lot of windows to the vast world, I am not happy and need more windows. It may be because I realize that I cannot own any of those windows. I need just one window belong to me; I want to feel safe in my calm window, that it is all. So, I still dreaming and looking forward to having one. The open door without condition.

The science of dream it is not my specialist, but I imagine with you. I do not declare specific significant information. Dream, nightmare, and vision due to, the food we eat before going to bed, or six senses, or psychological and biochemistry reasons, or message from God; which of which?

If you have a dream for instance to obtain a toy, cartoon, dresses, shoes, story, trips, marriage, children, money, jobs, education degree, happiness, ruling, healthy calm living, you will do hard work and even yell to achieve it.

If you can't fulfill your dream, you will try, and try more than one thousand times. You will travel along way to get your dream from Leo's mouth. You can have a part of it because the dream always contains lacking parts. For example, if someone is dear to your heart and he died, it is considered a lost part of your dream. If your life was threatened by losing your control on your life; the freedom, it is a lost part of your dream because your dream is not complete without love and free will that surrounding you.

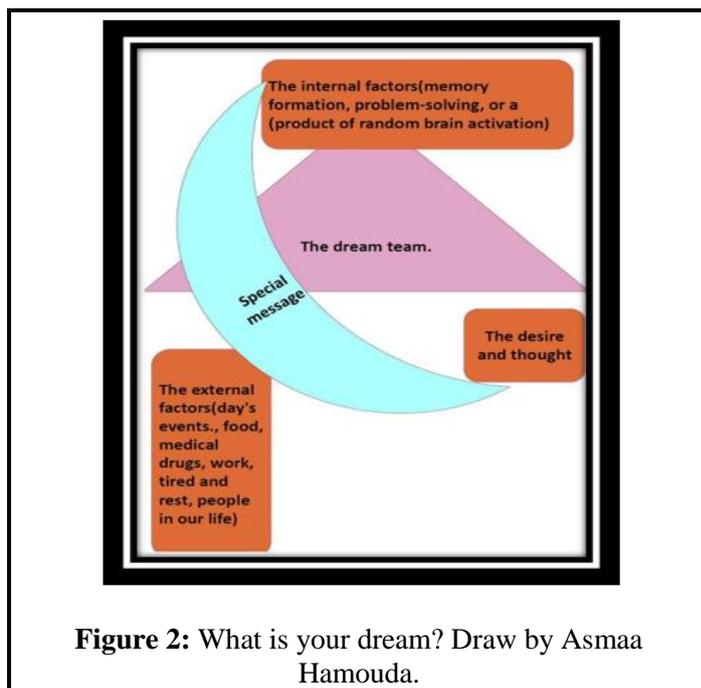
People steal your dreams and happiness that you were already achieved, and they try to make you feel that you are nothing. The people did that behavior to you to avoid grappling with their disappointment, frustration, and failure, besides they are jealousy from your greatness and achievement, and those people ask more from you. Those people did not achieve as you did.

The jealousy individuals ask you to do their dreams that may be ugly like them, so they always steal your dream by their vulgar words, comments, and judgments about your achievements. You need to achieve your dream with the people you love, the family, I guess. Dream not made unless every part of it be with you. If you can't, you will give up in real life to have a dream. So, you try to achievement in midnight dream or daylight whatever it will be even; both are good for your health, both may give you hope. If you achieve your dream, you will be looking for another one. Your dream doesn't have an expiration date, take a deep breath and try again. So, there is no door to achieve your dream in real life in this world, so go to sleep and dreaming; you will have got all desires, shall we dream.

Why and how are we dreaming?

When I am gone, there shall remain naught of the glad tidings of prophecy, except for true dreams. These the Muslim will see, or they will be seen for him. The Prophet (Muhammed), now quite ill, is carried into the Mosque on the shoulders of two companions. He tries to lead the prayer but is too weak. He delegates his duties to Abu Bakr. And as he leaves, proclaims: "[When I am gone] there shall remain naught of the glad tidings of prophecy, except for true dreams. These the Muslim will see or they will be seen for him." (Lamoreaux: 2002: 84).

Some dreams are from God. Some dreams are you're talking to yourself during sleep; it is a psychological evaluation. Some dreams are from Shaytan. What is your dream? And, why and how are we dreaming? Figure 2.



Islam is the greatest night dream culture in the world today. In Islam, the night vision is thought to offer a way to metaphysical, spiritual and divinatory knowledge, to be a practical, option, and potentially available source of creative inspiration and guidance and to provide ethical clarity concerning action in this world. Dreams, even purportedly real dreams, are a particularly difficult to validate or prove and, sometimes, to interpret [16,17].

The dream is a message from God, a type of God kindness to human. Indeed, God makes the person express things" dreams" to prove existences of God and give evidence to that person to have faith, before God judging him in the "Day of Judgment." Vision in the dream is a special gift from God. A person can make that gift stronger; through being religious near to God. Yes, if we are devoted to God in peace may strengthen these talents and gifts. But, we must keep it secret, and not be the way to get money. Don't use the extraordinary gifts to the meanest of goals.

Life is limited by the three dimensions identified such as length, width, and height). We always measure everything with our minds and our senses that have emerged since our birth in a world defined by these three dimensions. We would be able to realize the dimension (fourth) time unless we moved to another world with more dimensions. In this case, only we can share with the past, present, and future. To illustrate, we are going to sleep, our minds and our feelings in dimensions other than that we know are awake, and it is the people who think in his sleep events that may occur after h and days or months [1-7].

So where were we during sleep?

In any after it was, our subconscious mind wandering?

Sure, we did not have a dead body, however, were lost our consciousness, we were unfeeling by our bodies. So, we were dead in this world, but we are alive during sleep to live our dreams in a world that are specified three dimensions. But perhaps we were passing the experience of four dimensions, or more; we see some events of the past lie ahead, although it had given, or you may see events that have yet to occur. And if it happens in the future, as if our feelings off without limits while sleeping at the time and place without knowing...!!![1-6]

Perhaps this happen also in the feeling of waking, some people sees such events that occur in real life, does this mean that they live in after the fourth for a moment of time. And not the fourth dimension of time end targets dimensional. There are even after the fifth and after the sixth and seventh after, that knowledge in GOD knowing.

God knows.

The death is the only way liberated us from the world of materialism (sentenced three dimensions) to the world of spirituality. Where, we can understand the universe, and we learn all its dimensions, we can see what no eye has seen and hear what no ear has heard, and we are including not notified to the heart of man, True to the verse: (you have been in the absence of this We have taken off from you your cap today besrk iron) [Al-Q .."Thou wast heedless of this; now have we removed thy veil, and sharp is thy sight this Day!" View more verses. [Qaf, Quran. By the honoured Qur'an. <https://quran.com/50> [It will be said], "You were certainly in mindfulness of this, and we have removed from you your cover, so your sight, this Day, is sharp."

Indeed, the spirit of sighting the light of God does not recognize the boundaries of time and place. We in our lives in this world consider the observed universe beginning of time. And now we ask: Is there a time before this decade is there a time after? Ibn Rushd says that some Quranic verses and the correct hadith phenomena confirm the existence of a time before the creation of this perceived universe, as evidenced by the words of God: (He Who created the heavens and the earth in six days and His Throne was on the water) [Hud: 7]

The apparent meaning of the verse here requires a presence of time before this physical existence and needs a time though before this time! As well as in an interview

with Al-Bukhari narrated from the Prophet peace be upon him :(If God was not anything else, and it was his throne on the water, wrote in above all, the creation of the heavens and the earth).

There are other Koranic verses repeated often talk about this metaphysical time that preceded the creation of the heavens and the earth [16-17]. As in the words of God :(The Lord God who created the heavens and the earth in six days and then mounted the throne scheming There is no intercessor except after permission is Allah Would not you remember your Lord, worship Him) [Yunus: 3]. <http://www.quran-m.com/quran/printarticles/2127>

Are dreams Biochemistry?

Biochemistry between Sleeping Dreams and Nightmares

A dream is a succession of images, ideas, emotions, and sensations that ordinarily happens involuntarily in mind during particular stages of sleep. The content and meaning of dreams are not entirely understood, though they have been a topic of scientific thought, as well as a subject of philosophical and religious concern, throughout recorded history. The scientific knowledge of dreams is called oneirology.

Scientists think that the dreams function is to stay our brain active all the time. If the dreams stop, this is meaning the brain is inactive and we are in a coma. The brain never turns off. We can't be shut down like a computer or robot. In science opinion, the brain uses their storage image from real life by fragment compressed images to keep the mind busy and work all the time, by that way the brain makes a dream as a useful way to brain health [1-6 ,19-21].

I will illustrate in brief the sleep stage. When you are sleep, three are area cycle between REM (rapid-eye movement) and non-REM sleep. REM sleep cycle occurs between about 90-120 min during the night, and it accounts for up to 20-25% of whole sleep time in adult humans, although the balance decreases with age (a newborn baby may spend 80% of whole sleep time in the REM stage). REM sleep controls the latter half of the sleep phase, especially the h before waking, and the REM part of each sleep cycle typically increases as the night goes on. Non-REM sleep is not recognizable as REM sleep, contain three order stages (stage1 or N1, stage 2 or N2 and stage 3 or N3), which are developed in order upwards and downwards as sleep cycle's progress (Figures 3 and 4) [1-6 ,19-21].

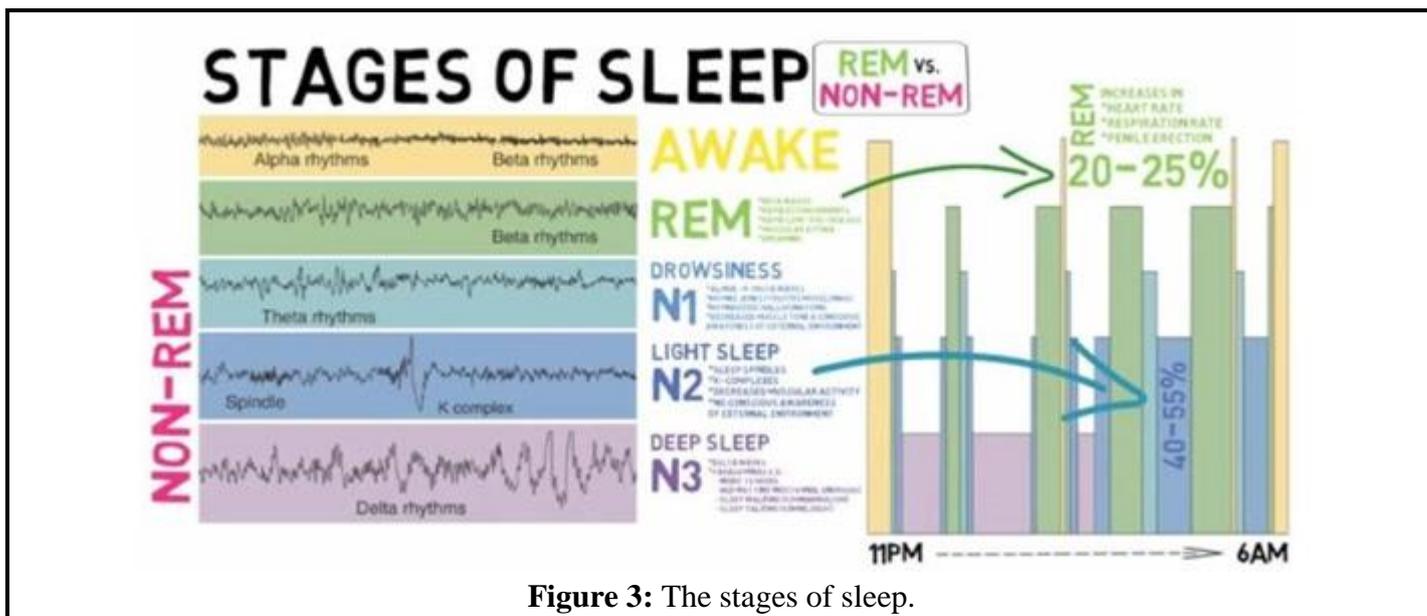


Figure 3: The stages of sleep.

Characteristics of REM & non-REM sleep

Sleep activity	REM sleep	Non-REM sleep
Eye movement	Rapid	Slow (drowsiness)
Body movement	Muscle twitches	Muscle relaxation
Vital signs	Fluctuating	Stable
Muscle tone	decreased	Some tone in postural muscle
Penile erection	common	Rare
Dreams	Common	Rare
EEG	Low voltage	Spindles, V-waves, K-complexes, slow waves
Percentage-adults	20-25	75-80
Percentage-infants	50	50

Figure 4: The characteristics of REM and non-REM sleep. EEG: the electroencephalogram (EEG) that shows low brain wave activity.

Dreams happen in the rapid-eye movement (REM) stage, of sleep-when brain activity is high and follows that of being awake. REM sleep is shown by continuous movements of the eyes through sleep. At times, dreams may happen during other stages of sleep. However, these dreams direct to be much less clear or memorable. The

length of a dream can vary; they may last for a few seconds, or about 20–30 min. People are possible to remember and recognize the dream if they are awakened through the REM phase. The average person has three to seven. Dreams may have been seen as a relationship to the unconscious mind. They range from familiar and

ordinary to overly surreal and strange. Dreams can have diverse natures, such as being frightening, exciting, magical, melancholic, adventurous, or sexual; all are outside the control of the dreamer. There is a lucid and clear dreaming, where the dreamer is self-aware.

If we claim, that dream is biochemistry, so maybe there are chemicals that our bodies produce during dreams, nightmares, and night terrors. We can argue that all induced by different chemicals being delivered while you're sleeping. The distinction between a nightmare and a night terror is this: basically, a bad dream is just an awful dream. A dream, in which, you have strong 'negative' feelings taking place, whether it may be wonder, anxiety, or only feeling that you're afraid. Night terrors are a little strange. During a night terror, the individual wakes up knowing that they have been yelling (he/she wakes up crying) and sometimes the person may even act out the nightmares physically (violent sleepwalking) [19-21, 20-27].

There are many neurotransmitters that affect sleep process including gamma-aminobutyric acid, serotonin, melatonin, oxytocin and other. The neurotransmitters balance also affects by any external factor such as food, stress, other. For example, the activation of the neurotransmitter gamma-aminobutyric acid or GABA is the bio-system that you fall asleep. So, any external factor can influence the type of sleep and dream through change brain neurotransmitter.

For examples, excessive consumption of alcohol can significantly affect your sleep cycle because the brain tries to get up for the lost REM stage that was forced out of your first sleep h due to intoxication and the abnormally prolonged time of deep inactive sleep [20-27].

Serotonin is neurotransmitter holds parts of the brain active while we are awake and affect by food; serotonin is diet-dependent, Figure 5. Serotonin is one of the essential chemicals in our bodies that serve to balance and regulate the sleep/wake cycle. Serotonin is manufactured by the pineal gland to make melatonin, the hormone that is directly associated with healthy sleep. Melatonin can be taken as a dietary supplement. When melatonin is taken, it helps people with sleep disorders get to sleep more quickly. However, excess melatonin levels can also lead to trouble sleeping and other health issues [16-27].

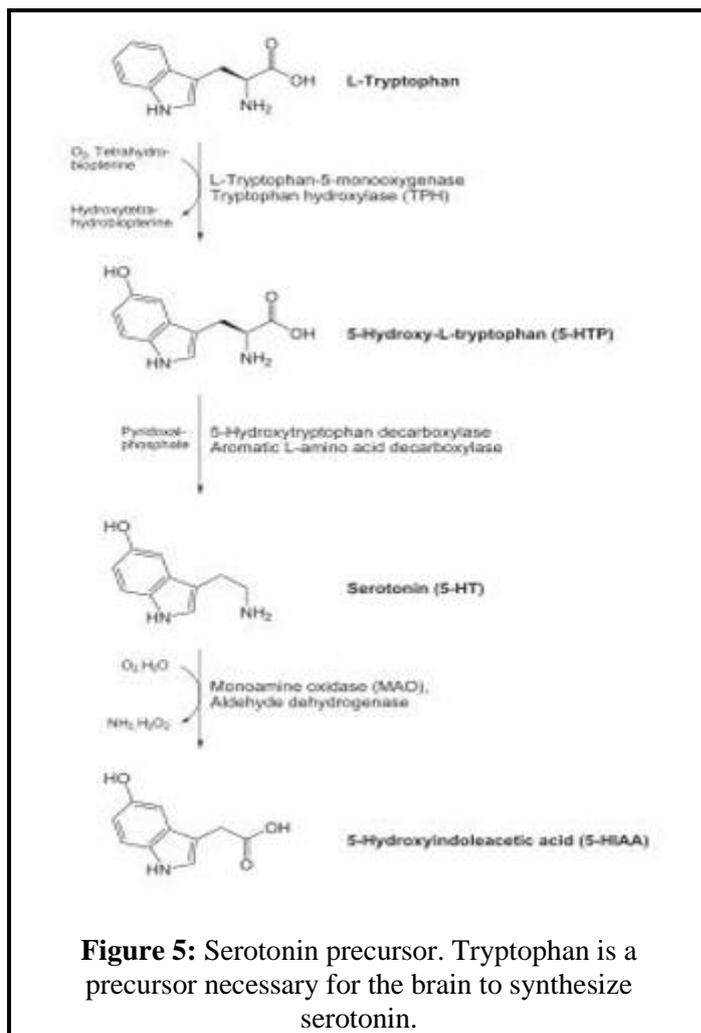


Figure 5: Serotonin precursor. Tryptophan is a precursor necessary for the brain to synthesize serotonin.

Serotonin is a vital chemical in normal male mating behaviours, like an incentive to search for a mate rather than for food. Again, because serotonin is diet-dependent, an organism with low serotonin levels places food at the top of the list, before sex. Light appears to boost the production of serotonin while darkness encourages melatonin synthesis, indicating their roles in sleep-wake cycles. Serotonin activity is nearly absent after the onset of REM sleep but appears to have the great impact on different sleep stages.

Cells include receptors for melatonin, a hormone produced in a predictable daily rhythm by the pineal gland, which is found deep in the brain between the two hemispheres. Levels of melatonin begin rising after dark and decrease after dawn or sunrise. The hormone influences drowsiness in some people and scientists believe its daily light-sensitive cycles help keep the sleep/wake cycle on track. Melatonin is its common name. Its chemical name is "N-acetyl-5-methoxytryptamine" [16-27].

Oxytocin is neurohormone. Oxytocin, once released in the body, affects sleep manners. Levels of oxytocin top at around 5 h after sleep onset when REM sleep manages. Oxytocin levels are also linked with stages of light sleep (Stage 2 of sleeping). Dreams from Stage II are just as filled with social intercommunications as dreams from REM sleep. Oxytocin is a peptide hormone. Scientists consider that since Oxytocin affects our human emotions in real life, which it may do the same while, we are asleep. Persons assigned with 'anxious' attachment styles enter sleep faster, sleep longer, and recall more negative dreams and nightmares than individual tagged with 'avoidant' orientations. Oxytocin levels and activity may be the part that joins social relationships in waking life and depictions of social relationships in dreams, Figures 6 and 7 show the neurotransmitters balance and brain mood and how the neurotransmitter manage brain function [16-27].

Neurotransmitters were also affecting dream through interaction with brain memory neurotransmitters and cortisol. A group of scientists explains dreams as reflects a biological process of long-term memory incorporation, working to strengthen the neural evidence of recent events, to combine these new shades with old memories and earlier stored knowledge, and to maintain the stability of existing memory images in the face of the following experience. It is thought that long-term memory consolidation includes interactions among multiple brain systems, modulated by various neurotransmitters and neurohormones.

Neurotransmitters, particularly the monoamines (largely serotonin [5-HT] and norepinephrine [NE]) and acetylcholine, play a significant role in switching the brain from one sleep stage to another as we mention before. REM sleep occurs when activity in the aminergic system has reduced enough to allow the reticular system to escape its inhibitory influence. The liberation from aminergic inhibition stimulates cholinergic reticular neurons in the brainstem and switches the sleeping brain into the extremely active REM state, in which acetylcholine levels that involved in memory and learning, are as big as in the waking state. 5-HT and NE are essentially nonexistent during REM [19-27].

In other hand, there are interactions between cortisol and other neurotransmitters that fluctuate during sleep (acetylcholine, 5-HT, NE), play a critical role in dreams phenomena. Cortisol level changes over the course of the night's sleep; it begins to rise in the middle of the rest and sleep period and slowly increases with a series of pulses that tend to correspond with REM sleep until peaking in the early morning h, Figure 8 [20-28,].

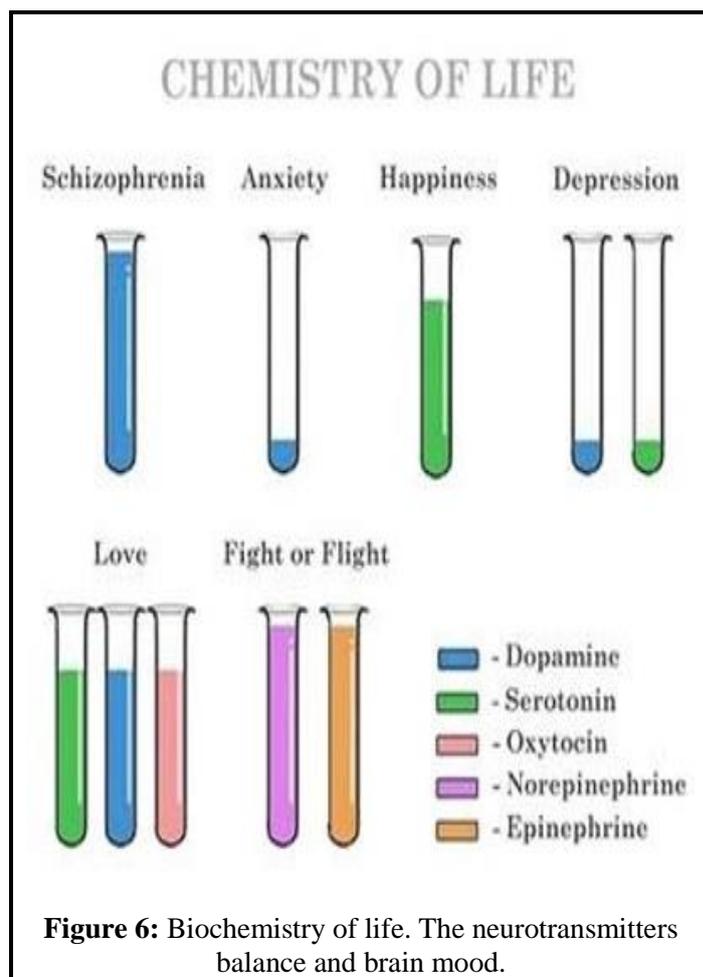


Figure 6: Biochemistry of life. The neurotransmitters balance and brain mood.

Dopamine functions are including reward, pleasure, involuntary movement, learning, memory, cognition, sleep, mood, prolactin production and attention. Physical effects imbalance includes raised heart rate, rapid breathing, hypertension, hyperthermia, anorexia, insomnia and student dilation, all tell-tale symptoms of "fight or flight" hormone stimulation.

Serotonin is responsible for the regulatory actions of mood, aggression, appetite, and sleep. Oxytocin is named the "love hormone" for a purpose but essentially concerns to females, although males also encode oxytocin proteins and practice them for similar uses.

Norepinephrine is monoamines; that displays critical physiological and psychological functions. NE is released during stressful moments to prepare us for action, like through a physical fight, after a sudden, loud noise or after being terrified. During the sensory loss, sleep or other periods of decreased sensory input, the locus coeruleus (the primary cluster of NE neurons) shows significantly diminished electrical activity, but this brain region quickly lights up with the presentation of a powerful stimulus [16-27].

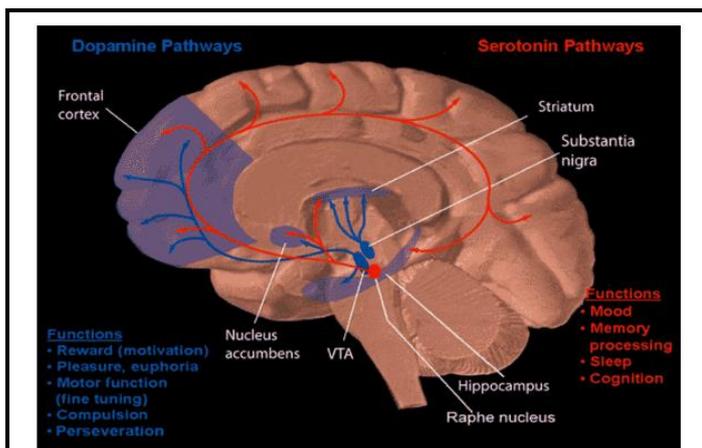


Figure 7: The neurotransmitter Dopamine and serotonin manage brain function.

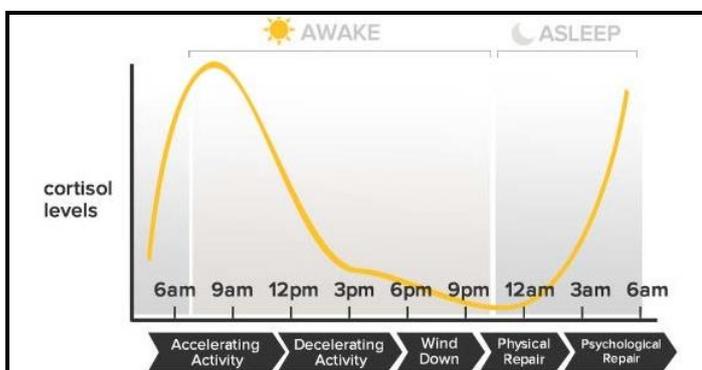


Figure 8: Cortisol level changes over the course of the night's sleep; it begins to rise in the middle of the rest and sleep period and slowly increases with a series of pulses that tend to correspond with REM sleep until peaking in the early morning h.

Cortisol has both quick and delayed effects on the neural role. High levels of cortisol during late night REM sleep could do more than conflict with episodic memory concentration. Also, high cortisol levels could affect the nature of dreams. It is believed that events consist of stories including actors, actions, and consequences, all playing out in settings created by several objects bound to a specific spatial and temporal context. Scientists suggested that the hormone cortisol plays a significant role in controlling the state of memory systems during sleep. High levels of cortisol, as are recognized late at night and, typically in the context of REM sleep, interrupt normal hippocampal→neocortical communication, thereby conflicting with forms of memory union dependent upon this information. At the same time, the content of dreams is also affected. In Slow wave sleep (SWS) dream content reflects the regular interaction between hippocampal and neocortical

circuits, providing for typical episodic memories to emerge. In REM sleep, however, dream content shows only neocortical activation, which we believe records for the fragmented, often extreme or strange, nature of these dreams. Figure 9 shows the side effect of cortisol imbalance [20-28].

Examples of the scientific study of dreams

Color and dreams

The scientific researchers try to study a lot of dream symbols in trying to find psychological treatment to many people. Certainly, dreams have many representatives such as clothes, colors, foods, trees, cars, animals, exams, names, fly in dreams and others. In this study, we try to concentrate on scientific study of colors of dreams. The color is one the primary effectors factors in our emotion and biochemistry life and treatment from many diseases, for example, the fruit color has a significant impact of human health [29-35].

Color psychology is the subject of values as a determinant of human behavior. Color influences thoughts that are not obvious, such as the taste of food and mood. Colors can also enhance the effectiveness of medicine or placebos. For example, red or orange pills are used as stimulants. Color can indeed influence a person that effects differ from individual to another. Factors such as gender, age, and culture, places can change and influence how a person sees or perceives color. For instance, males reported that red colored outfits made women seem more attractive, while women responded that the color of a male's outfit did not affect his attractiveness. Color psychology is also widely employed in marketing and branding. Many marketers see color as an important part of marketing because color can be used to control consumers' emotions and perceptions of goods and assistance. Businesses also use color when deciding on brand logos. These logos seem to attract more clients when the color of the brand logo suits the personality of the goods or services, such as the color pink being massively used on Victoria's secret branding. However, colors are not only important for logos and products, but also for window advertisements in stores. Research points that warm colors managed to attract spontaneous customers, notwithstanding cooler colors signifying more favorable [33,34]. Specific color meaning is essential. Different colors are understood to mean different things. For example, tones of red lead to feelings of attentiveness and arousal while blue tones are often associated with sensations of relaxation. Both emotions are pleasant, so, therefore, the colors themselves get positive feelings in advertisements or

treatment or understanding mind and mood. Table 3, The chart below gives understood meanings of different colors in the United States [29-35].

Functional (F): satisfies a need or solves a problem.

Sensory-Social (S): carries attitudes, status, or social approval.

Table 3: The chart above gives understood meanings of different colors in the United States.

Red	Yellow	Green	Blue	Pink	Violet/Purple	Brown	Black	White
Lust or desire (S)	Jealousy (S)	Good Taste (F)	Masculine (S)	Sophistication or style (S)	Authority (S)	Ruggedness or sharpness (S)	Grief (S)	Happiness (S)
Power (S) ¹	Competence or qualification (S)	Envy or racism (S)	Competence (S)	Sincerity or honesty (S)	Sophistication (S)		Sophistication (S)	Sincerity (S)
Excitement (S)	Happiness (S)		High quality (F)	Feminine (S)	Power (S)		Expensive (F)	Purity (S)
Love (S)			Corporate (F)				Fear (S)	

The Lüscher color test and the dreams

The Lüscher color test is a psychological test designed by Dr. Max Lüscher in Basel, Switzerland. Max Lüscher thought that sensory perception of color is phenomenal and universally participated by all, but that color preferences are individual, and that this difference allows individual situations to be accurately estimated by applying test colors. Lüscher believed that because the color selections are controlled in an unconscious manner, they reveal the person as they really are, not as they perceive themselves or would like to be recognized or seen [36, 37].

Lüscher thought that personality traits could be classified based on one's choice of color. Therefore, subjects who select identical color combinations have similar personalities. To estimate this, he conducted a test in which subjects were shown eight different colored cards and required to place them in order of preference. Colors are arranged between "basic" (blue, yellow, red, and green) and "auxiliary" (violet, brown, gray, and black), Table 4 [36,37].

Color has been shown by researchers to simulate human emotion in the waking state. Would it not, therefore, make sense that those same emotions encourage colors in the dream state? Further research reported that dream color data from around 8000 dream records and gave

assistance to the assumption that the frequency of colors we recall from dreams respond to emotional events in our waking life, as well as personality characteristics [35-39].

The researchers' investigation has observed that color in a dream is a symbol much like any other dream vision. Color appears to have significant symbolic associations with waking life feelings just as does other dream imagery. The importance of color, in adding emotional content to a dream image, can be postulated from the fact that processing of color occurs in a separate part of the brain than that of processing imagery. Also, as with other imaging, color seems to combine with dream imagery, to add emotional content to the final composite image (a process known as condensation) as follow [35-39], Figure 9:

1. COLOR "AMPLIFIES" THE IMAGE, to say the dreamer to do something or to have something or thinking to do something or take the path in his or her life. Perhaps the color and structure of the image was excited by the same original emotion.
2. COLOR "COMPLEMENTS" THE IMAGE, add meaning such as feeling including happiness, sorrow, fear, anger. Sometimes the color content adds new information that makes for a complete representation or ends the "story." Here the color appears to "complement" the content within the

image. Perhaps the emotional situation that stimulated the dream evoked several but associated responses from the parts of the brain processing color connections and that processing the imagery associations.

3. COLOR "COMPENSATES"(or qualifies), there is some emotion may to result from some evident happening in individual life. This event may be happening outside the dream such as he or she cannot be able to lead his or her own life. The dreamer says I want to; I want to remain separated, noninvolved in that event. At times the content within the color shows a hidden meaning within the image that is not shown in the image work alone. Often the color reveals the opposing or suppressed nature of the associated image. The color might explain how the dreamer reacts of feels toward the situation the image

represents. This is a state where the image is excited by one set of connections, and the color excited by a separate emotional or instinctual reaction to those relationships.

4. GROUPING OF COLOR "PRIMARIES", dreamer want to something was done and get rest, or happy, or any feeling such as any a real life. Sometimes colors seem alone without specific shape or object liking perhaps representing the general emotional environment at that point in the dream. It may also develop as the common pattern representing internal balancing forces (as Jung suggests) in a group of four color "primaries" Figure 10 [35-39].

The Human dreams are response to Color in Physiological and Psychological manner.

Table 4: Colors are arranged according to Lüscher thought.

Colors	Meanings
Blue	"Depth of Feeling" passive or incomplete or lazy, concentric, tranquility, calm, tenderness or kindness
Green	"Elasticity of Will" passive, concentric, defensive, persistence, self-esteem/assertion or confirmation, pride, control
Red	"Force of Will" ex-centric, active aggressive, competitive, action, desire, excitement, sexuality
Yellow	"Spontaneity" ex-centric, active, projective, aspiring, expectancy, exhilaration
Violet	"Identification" unrealistic/ wishful fulfillment, charm, enchantment
Brown	Bodily senses, indicates the body's condition
Black	Nothingness, renunciation, surrender or relinquishment
Grey	Non-involvement and concealment or hiding

The color is one area that has significant factor to the DreamWorks. Jung and Perls explained the four-color grouping of red, yellow, blue and green performing in dreams as representing a pattern for wholeness, and completeness, or the ubiquity of the natural inner balancing force.

This color grouping has been traditionally termed the "psychological primaries" because it is thought that they are seen as fundamental colors, rather than a mixture of other colors. Jung identified the symbolic significance of color in dream related work, and loosely assigned color relationships to the unconscious (black), consciousness (white or light) and his four primaries "functions". The four functions are intuition or inspiration (yellow), thinking or creating (blue), feeling (red), sensation or passion (green). There is lack of any actual research into the significance of color in dreams, that, lead a a group of researchers to initiate an examination based on understanding the waking or conscious human response to color [35-39].

The functioning of the eye itself may determine much about our automatic associations with color. The eye has the highest visual acuity or sharpness for yellow light, whereas with deep blue we have very low acuity or sharpness and it is very difficult for the eye to focus. Red, orange, and yellow appear relatively light in bright lighting, whereas blues and greens appear relatively bright in dark lighting. Bright lighting, which makes the activity more achievable, would, therefore, create a natural relationship between outgoing activity and the colors on the red, orange and yellow end of the spectrum. Dark illumination or lighting, which makes activity less possible and launches a restful situation, would likewise create a natural connection between spiritual or internal focus and relaxation and the blue end of the spectrum. Furthermore, research has shown color lighting affects the autonomic nervous system directly, creating various responses to color across the spectrum. Blue illumination, for example, has been remarked to calm the parasympathetic branch, following in reductions of

heartbeat and breathing. The color red has been seen to have the effect of exciting the sympathetic branch, causing certain manners such as heartbeat to speed up. Brown also found that the brain electrical response to red is that of alerting and arousal or wakefulness, whereas the response to blue is that of relaxation [35-39].

blue increased learning while white, black and brown created a reduction in learning; and orange improved social behavior [35-39].

The researchers speculate the mechanism of action of emotional response to color is look like linked by direct association to our physiological response. For example, when we are angry or excited, our body responds likewise to when it is lightened with red light, thus the brain would create a natural connection between the three functions: a) increased heart rate and breathing, b) red color, and c) anger/excitement. The emotion of anger thus naturally would be connected with red. The same for blue is the peaceful or calm emotions being linked with the relaxation of the body, Figure 10.

While these brain, eye and nervous system responses are often below the entrance of awareness, they have over time created a backdrop of a relationship between color and emotional event. Some work has been done over the years to try to quantify that connection. The Rorschach test uses the various ways that a subject names or projects color, on color and monochrome experiment cards, in the associative scoring. Another psychological testing tool, which more directly associates the color with emotional experience, was designed by Dr. Max Luscher, Professor of Psychology at the University of Basel as we mention before who built a connection between physiological change within the eye and color contrast [35-39]. The dreamer's personality at the end represented by the total of all colors reminded in the brain, emotion, and dream consequently.

Figure 10, shows the general links between the spectrum of color and a corresponding emotional spectrum according to the findings of Luscher. Figure 11 represents the relationships for the achromatic spectrum of black, gray and white using both Lucher and Jungian work. The details of color questionnaire table, used for dream work also illustrated in the Figure 12.

Example of Daydream that develop some creative persons

Daydream and a happy midnight dream can be led to creative action. Fantasies or Daydream are a series of pleasant thoughts that distract one's attention from the present and decrease stress and help the brain to recall and provide hope; it is away to treatment soul and body. In this part, I will tell about daydream of one of the participating in this study; this is the dream of the author of this work.

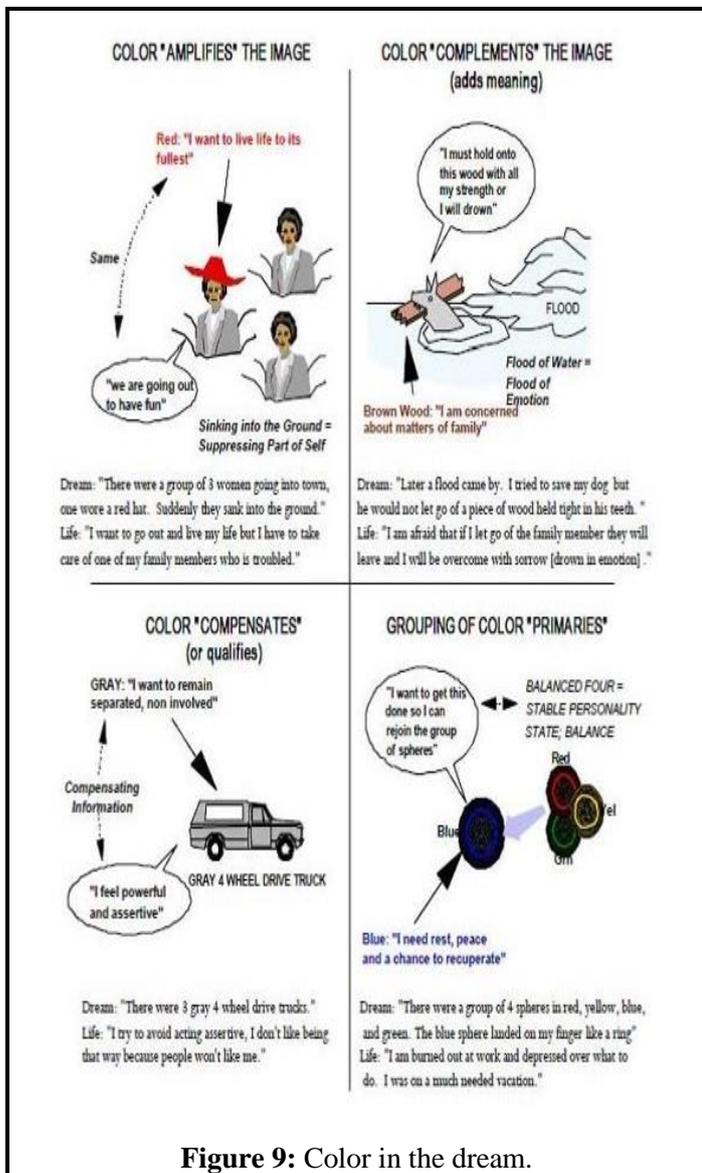


Figure 9: Color in the dream.

The relation between human and color may influence by culture and personal associations. Goldstein found that red stimulation corresponds to the experience of being confused, attracted to the outer world, encouraging activity, aggression, excitation and emotionally measured action. He found green to correspond to withdrawal from the outer world and retreat to one's own center, to a condition of meditation and actual achievement of the task. Ertel managed a 3- year study on room color and its influence on learning with children. He found that yellow, yellow-green, orange and light

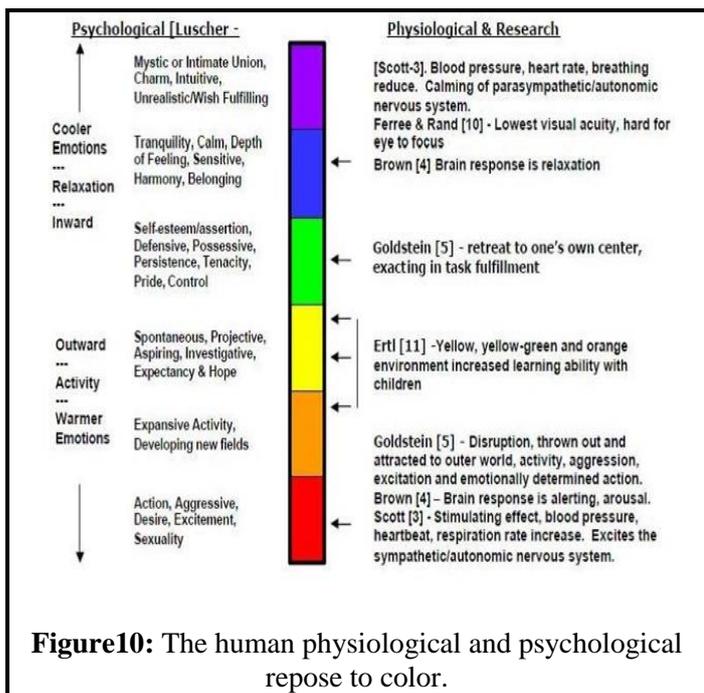


Figure10: The human physiological and psychological repose to color.

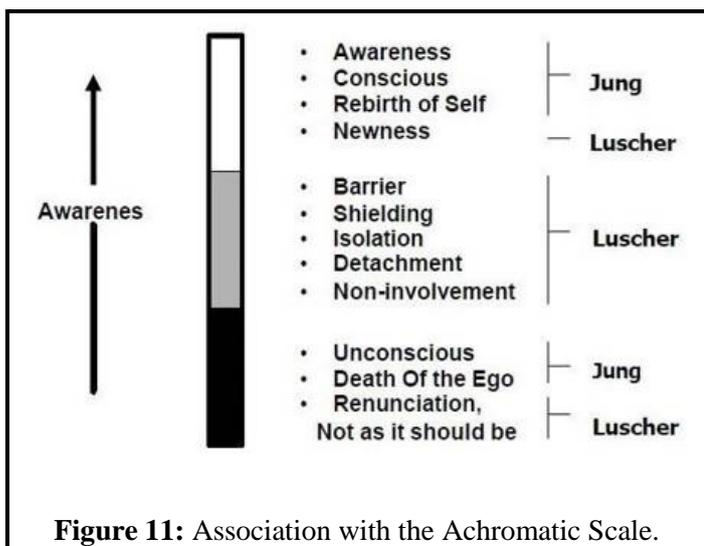


Figure 11: Association with the Achromatic Scale.

France, Midnight dreams in daylight, meeting with Louis Pasteur 1870 in a sheep farm.

In this day, I cried a lot, and then I close my eyes. Then, once I opened my eyes, I was in sheep farm, where there are beautiful sheep in the large garden.

Where the sun rises and thrown golden rays on the beautiful white blossoms, and I also wear a white dress gorgeous. I saw a beautiful young lady standing between those flowers.

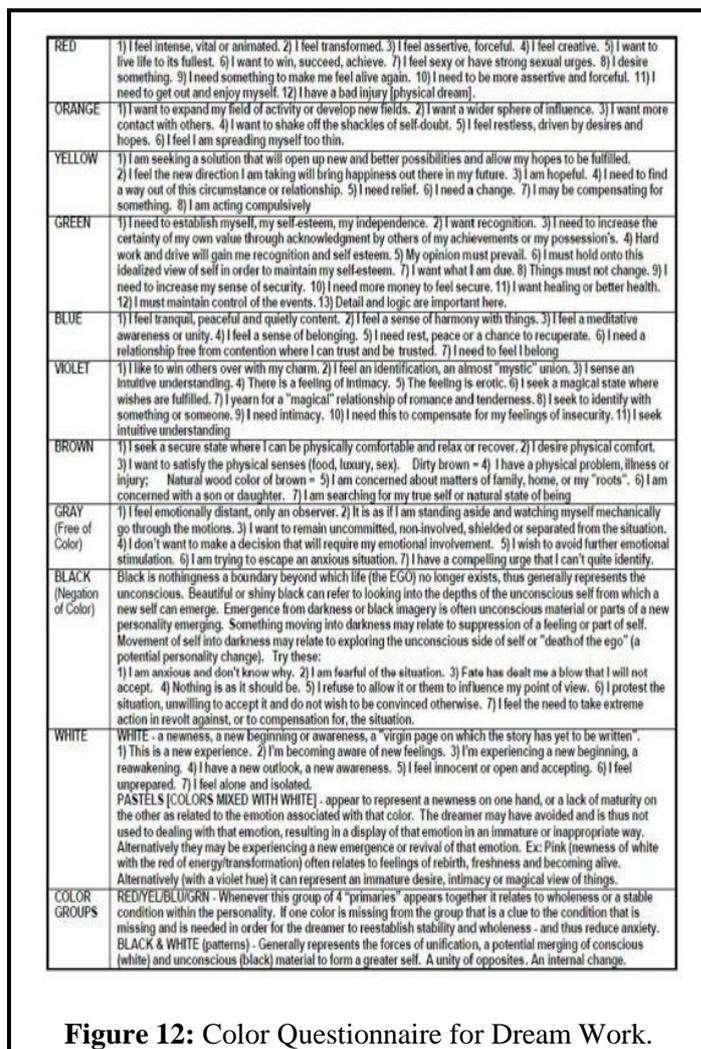


Figure 12: Color Questionnaire for Dream Work.

I listened to the lovely voice, "can help you," said the young lady. "Excuse Me, where I am," I asked. "This is Louis Pasteur farm, I am the ANNETTE, the daughter of Louis Pasteur," said the young lady. "And who are you madam," the girl asked.

"My Name Asmaa Hamouda, I am trying to be one of scientist," I answer in sadness.

"Can I meet Dr. Pasteur," I request politely.

Sure, my dad always sees young scientists," the young lady answered.

I entered the Pasteur house, and when I was near the door of his lab I listened a voice say, "repeat it and repeat it again, remember we are looking for cause to symptoms of disease, microbe, we are looking for a microbe, we find germ, we kill microbe,"

After his daughter had introduced me to him, I said "good afternoon great, Pasteur,"

"Good afternoon, a young scientist, we try to find here a vaccination against anthrax, how can we help you," Pasteur said.

"You are the father of immunology, I visited your museum in 2016, sure I am in a dream now," I said. Figure 13 a and b,

"Young lady we are in 1870," Pasteur said.

I can't believe that father; you have a great soul of challenge, which makes me feel ashamed of myself," I said

"Why," Pasteur asked.

"I feel ashamed because I give up on laboratory work. I give up for my passion. I tell myself "I am not a scientist." And I think that I was studying to only to prove to my father and people that I can be something or be doing anything to keep myself busy. I try to do my passion by all method. I used all possible way, I work, but I can't make any progress for my scientific life. I fail, people around me consider me a loser, I try...but always I can't, may I am not doing the right procedure or plan, may I am not good at any position. You know my language is weak. I am very fast to do anything, inaccurate. I don't prepare myself in a right way; I am a loser. I have nothing, just dreaming. I wish to study and work in Pasteur Institute in spite of I can't fit that position, I always, make the wrong decision. So, I can get back in time in a dream, only. I lie to myself," I said.

"Dear Pasteur, I am tired, I have pain from inflammation in my joints in both leg and hand. I found you have a problem in your leg and hand, and you still trying. I ashamed of myself," I said.

"Young lady, I tell you only word, try, believe, and believe in yourself first, that is all and that is the secret. Doctors call me, that chemist, what he thinks himself. But I will not stop a try," Pasteur said.

"Science takes steps cannot be understood by doctors. Science takes steps, then another step, then stops, then face an obstacle. A mother said to her child if you hesitate to take the first step in walking you will never walk," Pasteur said.

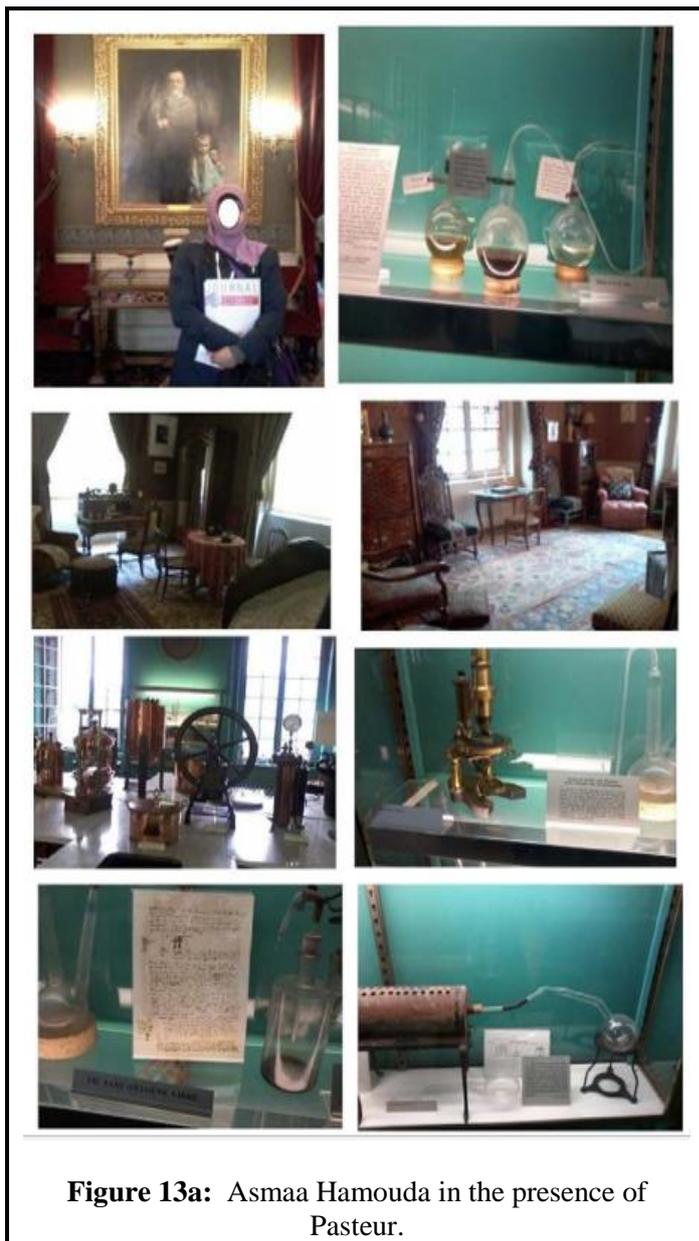
I woke up from my dream, and I opened my eyes, and I understand I need time and patience. The doctors in 1870 do not believe that little microbe can kill a human, and take a long time to stop challenge Louis Pasteur, and

finally understand they must wash their hand before they go to do surgery.

What is your dream?

Wake up now, Asmaa Hamouda.

Awake now, you have a work you should write. Yes, about the dreams, what is your dream?



The pictures were taken in Pasteur Museum at Pasteur Institute (14 June 2016). When I was in Pasteur museum in 2016 and see Swan-Necked Flask tube, to me, it is an achievable dream that came true and extraordinary happened.

When I was in Pasteur museum in 2016 and see Swan-Necked Flask tube, to me it is an achievable dream that came true and extraordinary happened.

To the father of immunology, the professor Pasteur:
Science that is in the heart of, Pasteur,
Science are you there,
Science, are you care,
Science are you aware,
Science, please be fair,
Science are we meant to be everywhere,
Science, shall we have met more and everywhere,
Science, I go a long tour and had tears,
Science, I have torn and fear, but I still care,
Science can you give me a career,
Science shall I do wait for you more,
Science, shall I do await you more,
Science I believe I am fool, but I love you more,
Science, I think that I am in hurry and fool, shall I wait for more,
Science, please meet me one more,
Science, shall I do want you more,
Science is in the heart of, Pasteur,
Science, please respond, Asmaa, one more,
Science, thanks for saving our life every day. The poem is

Figure 13b: Asmaa Hamouda in the presence of Pasteur. The poem is by Asmaa Hamouda

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References

- Schredl M. Characteristics and contents of dreams. *Int Rev Neurobiol* 2010; 92: 135-154.
- Schredl M. Questionnaire and diaries as research instruments in dream research: methodological issues. *Dreaming* 2002; 12: 17-26.
- Nielsen TA. A review of mentation in REM and NREM sleep: "covert" REM sleep as a possible reconciliation of two opposing models. *Behavioral and Brain Sciences* 2000; 23: 851-866.
- Nielsen TA, Zadra AL, Simard V, et al. The typical dreams of Canadian university students. *Dreaming* 2003; 13: 211-235.
- Bernstein DM, Roberts B. Assessing dreams through self-report questionnaires: Relations with past research and personality. *Dreaming* 1995; 5: 13-27.
- Kallmeyer RJ, Chang EC. The Multidimensional Dream Inventory: Preliminary Evidence for Validity and Reliability. *Perceptual and Motor Skills* 1997; 85: 803-808.
- Oliviero B, Floriana LR, Annamaria R, et al. Development and Validation of a Dream Content Questionnaire for School Age Children. *Sleep and Hypnosis* 1999; 1: 1.
- Michael S, Sabrina B, Anna K, et al. The Mannheim Dream questionnaire (MADRE): Retest reliability, age and gender effects. *Int J Dream Res* 2014; 7.
- Gross C, & Seebaß K. The Standard Stress Scale (SSS): Measuring Stress in the Life Course). Bamberg: Leibniz Institute for Educational Trajectories, National Educational Panel Study. 2014; NEPS Working Paper No. 45: 1-20.
- Fliege H, Rose M, Arck, P, et al. Validierung des „Perceived Stress Questionnaire“ (PSQ) an einer deutschen Stichprobe. *Diagnostica* 2001; 47: 142-152.
- Backé EM, Seidler A, Latza U, et al. The role of psychosocial stress at work for the development of cardiovascular diseases: A systematic review. *Int Arch Occu Envir Health* 2012; 85: 67-79.
- Aserinsky E, Kleitman N. Regular periods of eye motility and concurrent phenomena during sleep. *Science* 1953; 118: 273-274.
- Conway MA., Pleydell-Pearce CW. The construction of autobiographical memories in the self-memory system. *Psychological Review*, 2000; 107: 261-288.
- Foulkes D. Dream reports from different stages of sleep. *J Abn Soc Psychol* 1962; 65: 14-25.
- Foulkes D. Home and laboratory dreams: Four empirical studies and a conceptual reevaluation. *Sleep* 1979; 2: 233-251.
- Asmaa FH. "The Holy Books, the Gates of a Healthy food, Introduction". Scholars Press 2016; (ISBN 978-3-659-84111-8).
- Asmaa FH. The Challenge from Silence to Stand Up-Nutrition challenge in modern life, Back to Nature. Pharmacy and Pharmacology David Publishing Company, USA 2016; (ISBN: 1-934502-227). The Library of Congress Control Number is 2016953425.
- Kavanau JL. "Sleep, memory maintenance, and mental disorders". *Journal of Neuropsychiatry and Clinical Neurosciences* 2000; 12.
- Hobson JA. REM sleep and dreaming: towards a theory of protoconsciousness, *Nature Reviews* 2009; 10.
- Morewedge CK, Norton MI. "When dreaming is believing: The (motivated) interpretation of dreams." *J Personal Social Psychol* 2009; 96: 249-264.
- Winson J. Brain and psyche: The biology of the unconscious. 1985; Anchor Press/Doubleday, Garden City, NY. 2002. The meaning of dreams. *Sci*

- Am 2004; 12: 54-61. To sleep, perchance to dream. Learn. Mem. (this issue)
22. Hobson JA. *The dreaming brain: How the brain creates both the sense and the nonsense of dreams*. 1988, Basic Books, NY. 2002. *Dreaming: An introduction to the science of sleep*. Oxford University Press, London.
23. Hobson JA, McCarley RW, and Wyzinski PW. Sleep cycle oscillation: Reciprocal discharge by two brainstem neuronal groups. *Science* 1975; 189: 55-58.
24. Hobson JA, Stickgold R, and Pace-Schott EF. The neuropsychology of REM sleep dreaming. *NeuroReport* 1998; 9: R1-R14.
25. Hobson JA, and Pace-Schott EF. The cognitive neuroscience of sleep: Neuronal systems, consciousness and learning. *Nature Rev. Neurosci* 2002; 3: 679-693.
26. Holden KJ, and French CC. Alien abduction experiences: Some clues from neuropsychology and neuropsychiatry. *Cogn Neuropsychiatry* 2002; 7: 163-178.
27. Jacobs WJ, and Nadel L. Neurobiology of reconstructed memory. *Psychol. Public Policy Law* 1998; 4: 1110-1134.
28. Jessica DP and Lynn N. Sleep, dreams, and memory consolidation: The role of the stress hormone cortisol 2004; 11: 671-678 by Cold Spring Harbor Laboratory Press ISSN 1072-0502/04; www.learnmem.org
29. Asmaa FH. *Lifestyle child imagination is his world with colors. A drawing book, what we missed, Children and drawing and a healthy side effect*. Scholars Press, 2016; ISBN 978-3-659-84472-0.
30. Bleicher S. *Contemporary Colour: Theory & Use*, 2005; New York: Delmar. pp. iv, 23, 24. ISBN 978-1-4018-3740-2.
31. De Craen AJ, Roos PJ, Leonard De Vries, et al. "Effect of colour of drugs: Systematic review of perceived effect of drugs and of their effectiveness". *BMJ (Clinical research ed.)* 1996; 313: 1624-1626.
32. Bottomley PA, Doyle JR. "The interactive effects of colors and products on perceptions of brand logo appropriateness". *Marketing Theory* 2006; 6: 63-83.
33. Labrecque LI, Milne GR. "Exciting red and competent blue: the importance of color in marketing". *J Acad Market Sci* 40: 711-727.
34. Warner L, Franzen R. "Value of color in advertising.". *J Appl Psychol* 1947; 31: 260-70.
35. Aslam MM. "Are You Selling the Right Colour? A Cross-cultural Review of Colour as a Marketing Cue". *Journal of Marketing Communications* 2006; 12: 15-30.
36. Hoss R, and Hoffman C. Does Dream Color Reflect Emotion? A Long-Term Journaling study (pdf), International ASD Psiber Dreaming Conference, International Association for the Study of Dreams, 2004.
37. The Lüscher Color Test. Sewanee University. Archived from the original on 27 November 2013. Retrieved 2013-11-24. Relationship between the Luscher Color Test and the MMPI, *J Clin Psychol*.
38. Hobson et al. "Dreaming and the Brain", *Sleep and Dreaming*, Cambridge University Press, New York 2003; 1 - 50.
39. Perls FS. *Gestalt Therapy Verbatim*, Bantam Books, Real People Press 1974; 27-76.
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