

Pilot Study on Geometrical Movement in Lucid Dreams

Nigel Hamilton and Robert Waggoner

Dream Research Institute, London, United Kingdom
Lucid Dream Exchange, USA

Summary. In this pilot study a group of volunteer lucid dreamers were recruited to move in a lucid dream, so as to create three specific simple symmetrical geometric structures, whilst lucid in their dreams. The purpose was to explore a hypothetical observation by psychotherapist Nigel Hamilton that psychotherapy clients who ultimately completed a balanced geometric movement in their non-lucid dream series, then experienced greater psychological balance and progress in therapy (Hamilton, 2014). This novel pilot study sought to find whether moving as to create simple symmetrical geometrical figures in the lucid dream produced any significant effect on or within the dream space. Two analytical methods, including a contents analysis revealed the significance of light/colour emerging in the dream imagery during the completion of the lucid dream exercises, as well as the addition of symbols of symmetry in the lucid dream imagery. By contrast, obstacles and a relative lack of colour/light appearing during the exercise tended to be associated with a lack of symmetry in the imagery and a greater difficulty in completing the geometric figures. Results also suggest that the lucid dreamer does not control the lucid dream, instead they influence the dream and frequently relate to unconscious activity in response.

Keywords: Anxiety, anxiety disorders, dreams, dream content, dream theories, nightmares, nightmare distress

1. Introduction

Research by LaBerge et al (1981) and Hearne (1978) provided the initial scientific evidence to validate the existence of lucid dreaming or the conscious realization of dreaming while in the state of dreaming. Neurological studies have associated brain activity with common contentions of lucid dreamers that they possess conscious awareness of dreaming, made conscious choices and decisions within the dream state, and can recall personal and experimental goals to achieve (Dresler et al, 2011; Dresler et al, 2012).

Voss et al, (2009) has called lucid dreaming, “a hybrid state of consciousness” since portions of the cerebral cortex become active simultaneous with typical brain activity whilst dreaming. Experienced lucid dreamers have also suggested that lucid dreamers do not “control” the dream; instead lucid dreamers direct themselves within the dream and normally relate to the dream with greater awareness (Waggoner, 2009). They note that when a lucid dreamer walks around a corner or goes through a wall, a detailed new dream scene appears automatically without conscious thought or control suggesting the activity of an unconscious mechanism in lucid dreams. They also note the appearance of unexpected events in lucid dreams outside of their influence or control. This has also been observed in research where dream figures interfere with the lucid dreamer’s ex-

perimental efforts (Schadlich et al, 2016) and surveys where lucid dreamers are harassed by aggressive dream figures (Stumbrys & Erlacher, 2017)

Experienced lucid dreamers have noted a sudden increase in light, when requesting ‘Greater awareness!’ in the lucid dream, resolving an issue, or having a spiritual experience (Sparrow, 1976; Gillespie, 1991; Waggoner, 2009). For example, consider this lucid dream report by a German school child in a survey by Voss et al (2012),

“Narrative 3: (girl, 10): Someone was haunting me. And I was with my girlfriend. The chaser stood before me and wanted to kill me. And then I realized it was only a dream. So, I made the person disappear and then suddenly, it wasn’t dark anymore.”

The spontaneous change in light occurring after the resolution of the threat seems a symbolic expression of a psychological change within the lucid dreamer in that moment. Some of our study participants also noted spontaneous changes in light as they completed the task, or during the task.

Observations of the dreams of clients in therapy have indicated a direct link between the balancing out of directional dream movements (e.g., left, right, up, down, forwards, backwards, in/out) over a long dream sequence and a corresponding positive shift in the dreamers’ consciousness. This coincided with a new psychological balance and perspective in the client’s personality, at the same time symbolized by the appearance of a significant symmetrical symbol in the dreams. (Hamilton, 2014).

As an example, a woman who started dreaming repeatedly of being on the left-hand side of a man and feeling uncomfortable there had previously reported difficulties trusting men. In therapy, she worked on allowing receptive feelings to emerge and to enjoy receiving from the masculine. This new attitude became reflected in dreams of being

Corresponding address:

Nigel Hamilton, Dream Research Institute c/o Centre for Counselling & Psychotherapy Education, 2 Warwick Crescent, LONDON W2 6NE

Email: christine@ccpe.org.uk

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on the right-hand side of men and feeling comfortable there. This showed a more balanced perspective to be present in her relationship with men. Shortly afterwards she began to become aware of rectangular objects appearing in her dreams, for example sitting comfortably at a rectangular table, with a man opposite her. Several times they swapped positions around the table, still she felt comfortable. In waking life, her relationship with men became much more trusting and balanced.

Waking dream explorations (in which the therapist guides the client through the client's dream in the waking state, similar to active imagination) of such dream movements with clients show that a balancing out of opposing intrapsychic forces seems to be taking place in the process. Typically, upon completion of a prolonged sequence of dreams, a symmetrical symbol has been formed, signifying geometrically, a new state of inner balance. One such symmetrical figure would be a square with opposite corners holding the balance of opposing psychic forces. More complex geometrical symmetries such as a cube, triangle, pyramid, circle and a sphere seem to indicate a more comprehensive synthesis of psychic forces during the process of a psychospiritual development process. It is suggested that lucid dreaming can present an opportunity for an intra-psychic work and self-healing. (Waggoner, 2009; Waggoner & McCready, 2015).

In this pilot study, extensive observations from dreamwork in psychotherapy (Hamilton, 2014) served as the basis for the lucid dream task. What would happen if a lucid dreamer traversed space in a dream and formed a symmetrical geometric shape? Would the result of completing such an exercise result in no changes to the dream environment? Or would completing the geometrical symbol result in something that symbolically suggests a significant change in the dreamers' experience, as suggested by Hamilton?

Because experienced lucid dreamers have discovered that 'expectation' can frequently result in the appearance of the desired expectation, this study sought to avoid what some lucid dreamers call 'the Expectation Effect' by simply asking lucid dreamers to perform the task and take careful notes (LaBerge, 1985; Waggoner, 2009). The protocol did not mention Hamilton's therapeutic observation, nor did it suggest any possible outcomes.

2. Methodology

2.1. Participants

Lucid dreamers were sought on social media and through the readers of the online magazine, *Lucid Dreaming Experience*. Thirty-one people participated and returned questionnaires for the first lucid dream experiment.

2.2. Procedure

A group of volunteer lucid dreamers were recruited to move so as to create specific symmetrical geometric structures, while lucid, in their dreams. An excerpt of the dream protocol is included below.

The protocol requires three different figures to be created lucidly in the dream space. Only one figure can be created per dream. In each dream a different figure is created as follows:

Dream a) upon becoming lucid, fly or move in the dream space so as to create a square or journey in such a way in the dream so as to complete a square within the dream space.

Dream b) similarly, fly or journey in the dream space so as to complete a triangle.

Dream c) similarly, fly or journey in the dream space so as to create a circle'.

Participants were asked to move or journey in such a way as to create a square, a triangle or a circle in three separate lucid dreams. Instructions and a protocol were issued. Participants could perform the exercises in a lucid dream 'outdoors or indoors'. The distance and direction of movement was not specified but left up to the lucid dreamer to decide. No specific method of lucid dream induction was specified.

During each lucid dream, participants were asked to note in their written dream report any changes in the scenery, whilst creating the geometric figures. In particular, changes in feelings, colours, objects, dream characters, and landscape were to be noted. Having completed each exercise, participants were asked to write out any noticeable changes, compared to when they started the journey. Participants were asked to fill in a questionnaire stating the date of each dream, their age, gender, and prior lucid dream experience.

The questionnaire allowed for their recorded experiences to be answered via a series of questions. The completed questionnaire was then returned by email to the LDE who then forwarded the answers to the Dream Research Institute in London. A time limit was set for submission and then the data was analyzed. A total of 63 lucid dream reports were recorded.

3. Results

3.1. Lucid dream experience vs. completed dream tasks

A profile of self-reported personal lucid dream experience compared with the completion of the dream tasks is shown in Table 1 below. The metrics of less than 25 lucid dreams; between 25 and 100 lucid dreams; between 100 and 500 lucid dreams; and more than 500 lucid dreams were designated as inexperienced, middle experience, experienced and very experienced, respectively. Although there were some notable exceptions, the amount of personal lucid dream experience is associated with the relative success in completing the dream task (Stumbrys et al. 2014). Those who did not do well showed an average experience ranking of 2.06, while those doing okay had an average experience rank of 2.42, and those who did well had an average experience rank of 3.00. If the lucid dreamer reported not completing the first segment of the task, then they were designated as 'didn't do well'. A lucid dreamer who reported completing or very close to completing the task was designated as 'did well'. Those who reported somewhere between those two designations did Okay.

3.2. Relative success in completing dream tasks compared with dream changes

The results of the experiment showing the relative success in completing the dream tasks compared with significant spontaneous environmental changes in the dream such as

Table 1. Lucid dream experience vs. completed dream tasks.

Code: ① = inexperienced ② = middle ③ = experienced ④ = very experienced					
Participant No.	Didn't do well	Participant No.	OK	Participant No.	Did well
24	①	10	②	11	③
31	②	8	②	12	②
23	①	13	③	5a&b	③
29	③	6	②	9	④
30	①	28	②	7	③
20	③	14	②	1a&b	③ x 2
21	③	25	④	2a&b	③ x 2
22	①			3	④
15	②			4	②
16	③				
17	③				
18	④				
19	②				
26	①				
27	①				

colour, light and characters appearing (whilst performing the task) are included below in Table 2. The table is divided into four groups, the first being the most successful. The second group almost completed the task. The third the least successful and the fourth being those who completed the tasks but without any significant changes.

Each participant's report was examined for any noticeable perceived changes that took place during and on completion of the exercise. Colour, light and other changes, such as objects or characters or landscape changes (compared to what was present at the beginning of the dream), were recorded simply as a change in the dream, whether this exercise was completed or not. Light was included as a change if an object was radiating light or if light was noticed in the dream, for example a dark room became light or a dark landscape became light. Thus, any perceived changes, including colour and light in an object or a character or in the landscape were counted simply as a change in the dream. In many dreams the image changes were very clear. In others, the dreams changed from being foggy or dark to becoming lighter (occasionally radiant) and with colour. These dreams, some of which, included other changes, tended to end up as completions or 'almost completed'. In the latter case the dreamer either lost lucidity or they woke up near

the end of the exercise. Hence it seemed important to include completed (colours, clarity, and changes) and 'almost completed' (some colour and changes or woke up too soon or obstacles) as two distinct categories in Table 2. Incomplete exercises had obstacles preventing completion and very little or no colour/light and no changes. Few exercises were completed with no obstacles, very little colour, and no changes.

Of the 63 lucid dreams reported, 35 dream reports (combining groups 1 and 4), completed the task successfully, of which 29 recorded significant changes in the dreams – mainly the spontaneous appearance of bright colours, characters and light in the imagery as they proceeded, no obstacles were encountered. In the 4th category, 6 completed without obstacles or any significant changes in light/colour. In the second category, eight who recorded dreams, almost completed the task. In this sub-group, spontaneous colours/light and dream characters appeared, but they woke up just before completing the geometric shape. In the third group 20 lucid dreams failed to complete the geometric shape. Hardly any environmental changes were recorded, there was little colour in the dreams, and the spontaneous appearance of obstacles and obstructive characters prevented completion. The results suggest the completion

Table 2. Relative success in completing dream tasks compared with dream changes.

Group no.	No. dreams recorded	Success in attempting task	Relative appearance of colour/light and significant changes
1	29/63	Successful completion, no obstacles	Clarity, many colours, light, significant changes
2	8/63	8 Almost complete, obstacles appeared or woke up too soon	Some colour, some changes in dream
3	20/63	20 Incomplete, obstacles appeared	Very little or no colour/light, no changes
4	6/63	6 Completed, no obstacles	No or very little colour, no changes

Table 3. All tasks completions as a fraction of dreamers who completed the tasks

Completed	Colour, other changes, no obstacles	Changes, no colour, or obstacles	No changes, no colours, or obstacles
No. completed	23/33	7/33	3/33

of the task is associated with the spontaneous changes in dream images (e.g., colour/light and dream characters appearing in the dream). More significantly, the majority of the dreams reported 37/63 (groups 1 & 2), revealed some colour/light or helpful dream characters and helpful dream objects appearing whilst attempting the tasks. Some (group 2) who failed to complete or almost completed had striking colours and imagery spontaneously appearing, and the problem seemed more to do with holding the concentration and remaining lucid.

3.3. All tasks completions as a fraction of dreamers who completed the tasks

Table 3 lists task completions as a fraction of dreamers who completed the task. Where dreamers repeated the task, the most generally representative report of the task was chosen. This reduced all task completion to 33. Twenty-three (23/33) completed with colours/light changes and no obstacles. Seven (7/33) completed with changes, no colours/light, no obstacles. Three (3/33) completed with no changes, no colours/light and no obstacles. Here, task completion appears to be strongly associated with colour/light changes (23/33), compared to the other two groups (no colours) (10/33). Changes (total) appear to be very strongly associated with completion (30/33), compared to no changes (3/33).

3.4. Comparing success in completing the triangle, circle and square

The results also show the square as recording the largest number of attempts (30 out of 63 dreams), the circle was second (20 out of 63 dreams) whilst the triangle recorded the least attempts (13 out of 63 dreams). In fact, many participants never even attempted tracing the triangle.

3.4.1 Relative success in completing each task

Table 4 reveals the difficulty of completing a more unfamiliar geometrical figure such as the equilateral triangle. A total of thirty attempts at completing a square were made, whereas twenty attempted the circle and thirteen attempted the equilateral triangle. However, as in Table 2, the same pattern of results appears in Table 4, i.e. The relative success in completing the dream tasks is associated with the appearance of colour/light and other significant changes in the dream imagery.

3.4.2 All task completions for the square, circle and triangle as a fraction of dreamers who completed the square, circle and triangle

Only the most generally representative report for the square,

Table 4. Relative success in completing each task

Task	Completed, significant changes, colour/light/no obstacles	Completed, no changes	Incomplete, obstacles. Little change or colour	Almost complete, some changes, colour, few or no obstacles
Square	15/30	3/30	8/30	4/30
Circle	9/20	2/20	5/20	4/20
Triangle	5/13	1/13	7/13	0/13
Total	29/63	6/63	20/63	8/63

Table 5. All tasks completions as a fraction of dreamers who completed the tasks. [Please refer in text]

Completed	Colours, changes, no obstacles	Changes, no colours, no obstacles	No changes, no colours no obstacles	Almost complete, some changes, colour, few or no obstacles
Square	13/18	3/18	2/18	4/30
Circle	6/10	3/10	1/10	4/20
Triangle	4/5	1/5	-	0/13

Table 6. Relative success in completing each task

Task	Large open landscape/ figure	Small figure, localised or indoors
Biggest impact (completed, no obstacles, significant changes/colour)	17/27	10/27
Less impact (much less colour/changes. Half complete/half incomplete)	10/12	2/12
Little or no impact (mostly incomplete, very little or no colour or changes)	12/24	12/24
Total	63 dreams	

circle and triangle were chosen, respectively. Again, task completion is seen to be associated with colour/light changes and more so with changes if colour/light are included as changes (see Table 5).

3.5. The size of the geometric figures created vs. the impact on the dream

Table 6 summarises the impact of creating a larger geometrical figure, by moving outside, covering large landscape areas versus creating small geometrical figures on localised or indoor landscapes. A relatively small landscape meant completing the exercise indoors in an enclosed space (This was not suggested in the dream protocol). A few cases did not describe their movements as being indoors or outdoors. However, it was clear from the descriptions that the figure being created whilst moving was quite small. When the exercise was performed outside (outdoors), this was designated as a large landscape, i.e. the descriptions given indicated much larger figures were being created. One case involved performing the exercise indoors, but in a very large tent outside and was therefore included in the large landscape data.

It would appear that moving so as to create a larger figure in a more open landscape revealed more spontaneous environmental changes in the dream imagery as the figure was being attempted. (17/27 v. 10/27). In the cases of there being little or no changes (including colour) there was no difference between smaller indoor figures (12/24) vs. larger or large outdoor figures (12/24).

3.6. Contents Analysis of changes recorded during the exercises

As noted in the lucid dream reports, the lucid dreamers moved to create a geometric shape, but spontaneous environmental changes frequently occurred in the dream. However, in reading the transcripts, the change in perception of the dreamer is crucial. e.g. If the dreamer perceives a truck appearing in the dream but does not mention a colour, then it is perceived as a truck only. This was characterised as an object change. But if the dreamer sees a red truck appearing, the colour is not separable from the object and yet it is the colour which qualifies the truck. Further, the perception of the red colour supersedes the perception simply of a truck. Therefore, the colour of an object was chosen as the change.

A change in energy means the dreamer became aware of a change being experienced whilst moving through the exercise. Similarly, for time, as well be for bodily experiences. If they were recorded by the dreamer as a change, then it was listed as one of the changes. Obstructive objects and characters and helpful objects and characters were listed separately as changes appearing during the movement. Changes in surroundings, including the landscape were also listed.

A contents analysis of the types of changes in the dreams was carried out. Eight themes were identified. Table 7 is the result of a very different analysis of the dream texts compared to table 2, which reflects the relationship between the relative success in completion and the changes in colour/light as well as other changes. In the latter analysis shown in Table 7, all the colour/light changes in each dream text was added up and listed under the number of light/colour changes. This was done separately for all other changes

Table 7. Contents Analysis

	Light/ colour	Ener- gy	Time	Obstructive Characters, Obstructive Objects	Surround- ings	Helpful Char- acters/ helpful objects	Body Changes	Abstract numbers, letters, geometric figures
Changes	57%	6%	1%	4%	16%	9%	6%	1%
Totals: 163	92	10	1	6	27	16	10	1

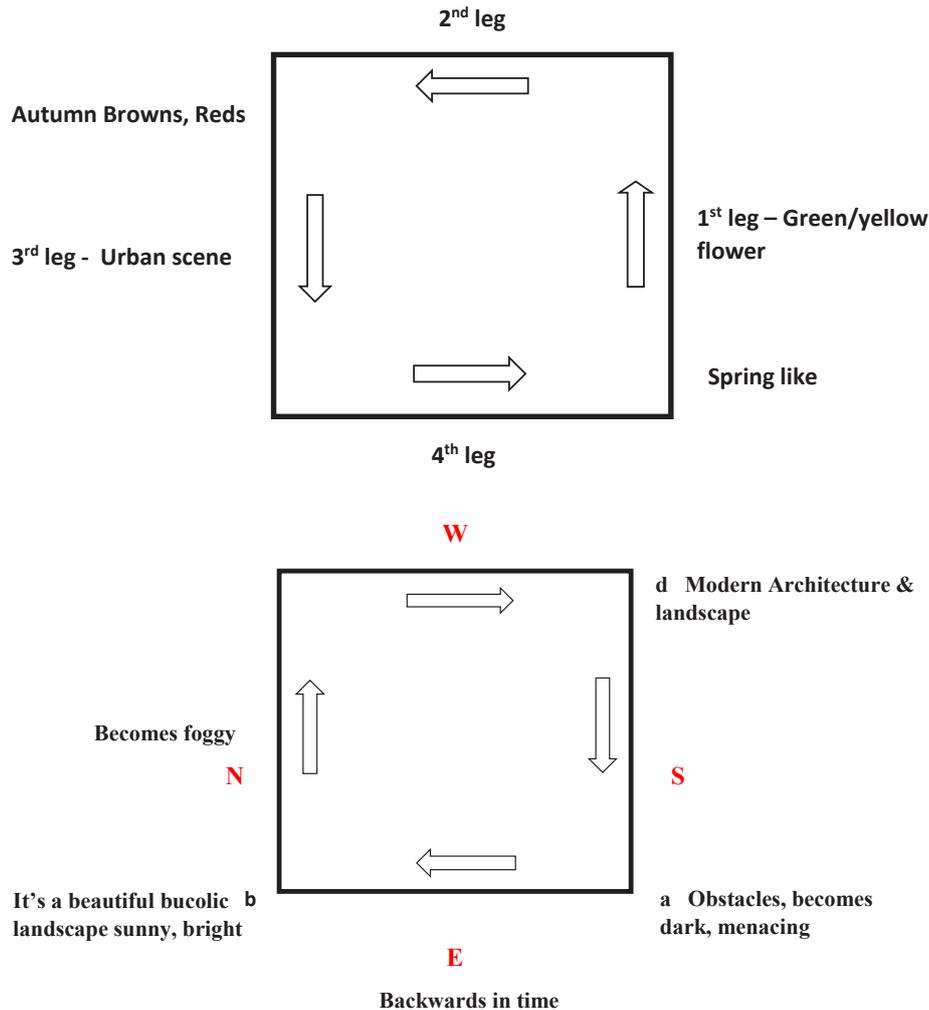


Figure 1. Completing the Square.

too. Table 2 simply reflects all such changes in each text as a single change. Having done so initially, it was then noticed that most colour/light changes or other changes in the dreams, for those who completed, were clearer and much more colourful.

Clearly the most numerous spontaneous changes in the dream environment during the exercises carried out involved changes in light/colour (57%).

Other changes included surroundings (16%), the appearance of helpful characters and objects (9%), obstructive characters and objects (4%), energy and bodily changes (both 6%). The percentage for light/colour (57%) in Table 7 is remarkably close to the percentage of dreams recorded in which colour/light was associated with successful or nearly successful completion of the exercises in Table 2 (60% - i.e. 29 plus 9 out of 63 dreams), even though the coding for colour/light in Table 5 was very different to that used in Table 2.

3.7. Lucid Dream examples showing spontaneous symbolic activity: Completing the square

Case a. A verbatim report of a woman completing the square follows:

"I was in the house where I grew up, in my child's room, thinking about where to carry out the experiment. Out-

side? I opened the window and wanted to fly outside in the garden, but for a short moment I wasn't sure if I was dreaming at all. I tried levitating in my room, succeeded but decided to stay in my room, creating a square inside. I choose direction N first.

1st segment: I counted 5 steps until I reached the edge of my bed that was exactly what I expected. As mentioned, before it was quite dark in the room. I concentrated on my body and noticed I was wearing a winter coat and a woollen cap though it wasn't cold. I took off the woollen cap but there was still another on my head and so on and so on. I took off about seven caps, placed them all on my bed, then I stopped to continue the experiment though there was still a cap on my head.

2nd segment: I counted my steps and reached the wardrobe as expected, I put off my woollen cap - this time successfully and in spite it was still dark in the room, I could see clearly what it looked like (pink/green), on the wardrobe door I noticed a painting/poster colourful light colours and I could read the name "Klimt" on it. I've never seen this painting before.

3rd segment: I was distracted by voices of family-members, they called me/talked with each other anywhere in

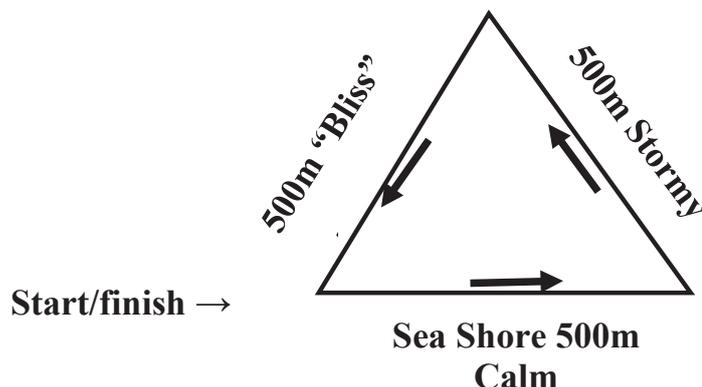


Figure 2. Completing the Triangle.

the house, I worried somebody could disturb me and I would forget about the experiment. Again, I counted my steps 5. I noticed the door on my left, as expected

4th segment: same as above, now walking the fourth leg I noticed the slide door/wall between my and my sister's room (as expected). I wake up cheerful and excited".

Case b. Two days later, the same dreamer attempts making the square again (Figure 1). She almost manages to balance the opposites, symbolised by the imagery at opposite corners. In the first leg she is travelling outside in her neighbourhood. She notices green plants, yellow flowers, springing into life. In the second leg, the street broadens, the hedges disappear, and the landscape becomes autumnal, browns and reds dominating, the vegetation becoming sparse, the sky widens and opens up.

In the third leg the landscape becomes urban like, with houses on her left. She wakes up during the fourth leg. Note the spontaneous appearance of opposite seasons, colours and contrasting landscapes, which were not consciously expected or requested in the lucid dream.

Case c. A second participant from group one, completed the square covering a large geographical area outdoors. In this example, the imagery of time reversing (East, a to b, and West, c to d) is accompanied by opposite landscapes and seasons (b) and (d). He encounters obstacles at the end but completes the square as the scene becomes dark (a) This is a similar image to corner (c) 'foggy'. (Figure 1)

All three of the above examples, show evidence of images appearing spontaneously at opposite corners of the square.

Only one participant attempted a vertical square. The first leg was horizontal above ground, outside. In the second leg he moved vertically upwards. "I experienced that I flew between different dimensions, layer after layer. I flew through six different dimensions. I saw different colours surrounding each layer. Each time a new layer appeared I felt a strange feeling inside my body. By the sixth layer I had to stop because the energy/feeling in my body. It increased as I ascended. I almost started to scream". In this example, the dreamer experienced changes of energy and consciousness (dimensions) accompanied by corresponding colours surrounding each layer until the energy reached an unbearable peak, forcing him to stop.

3.7.1 Completing the circle

The first two dreams below indicate the outcome and product of the dream exercise. In the first a balance of left and right sides occurs (barrier to left reflects the dull coloured grass initially which changes to green as movement occurs on the right. As the female runner spontaneously appears, the grass on right becomes gradually very green (feminine and masculine now balance). In the second dream, the dreamer is drawn to her right side to see a green hilly coastline. On waking she becomes aware of her right ear which has reduced hearing.

1. A man dreams of an open field with a barrier to left of path. On right hand side is an open field with short brown grass. As the man runs, a female runner is behind him. As he jogs, the open field to the right becomes green and the grass waist high.
2. Dream: A woman creates a large circle, driving a motorboat. 'As I looked to the right, I saw the green hills of the coastline. I experienced being at the centre [of my psyche]. I had an epicentre view'. Upon waking she is aware of the right side of her body. In waking life, the right side is weaker. 'I'm left-handed and I have reduced hearing in my right ear'.

In the third dream circling around repeatedly intensifies and produces a dramatic and unexpected outcome.

3. Intensity of fire along with its colour and light is experienced when a man reported feeling "sucked into my own current" as he ran around in a circle outside, fifteen times. The shrubbery and grass around me caught fire. I increased my speed and it created a funnel-shaped firestorm. I stopped and the fire died down".

3.7.2 Completing the triangle

One participant created the triangle approximately 500 metres per leg, at the seashore. (Figure 2) He starts with very calm, bright sea waters. As he goes out to sea it becomes a roaring, stormy sea.

As he completes the triangle, he spontaneously experiences 'a huge surge of ecstatic bliss' as though the balances of the two energies combined within him.

3.7.3 Spontaneous Appearance of Obstacles

This man performed all three tasks. However, each time, just before the end, some furniture blocks him, and he must walk over it to complete the task.

Square: The participant traced out the first three legs, without any changes. On the fourth leg a couch, without cushions unexpectedly blocks his path. He wakes up.

Triangle: A dull brown room. Tables and a bed appear in centre of room. These disappear on the first and second leg, no changes. As he enters the third leg of the triangle, a piece of furniture blocks his way to finishing. He wakes up.

Circle: He attempts the circle in a room. The room becomes darker on his left side, lots of tables appear. All dark browns. Nothing changes but a table appears and blocks his way. He wakes up.

3.7.4 Spontaneous Appearance of Imbalances

Triangle: A woman sees a female mannequin to her left in a store and male mannequin to her right in another store. As she moves North in first segment, one woman starts moving spastically while on her feet. She fails to complete the triangle.

Square: The same dreamer attempts the square. Again, she is in a clothing store. On completing the first segment, both legs tingle below the knee. At the second segment, one leg feels longer than the other, forcing her to walk 'funny'. The square was not completed.

These two dream reports, one tracing out of the triangle, and straight afterwards she attempts the square, clearly show an imbalance between her two legs.

3.7.5 Improvements by repeatedly completing the task three times, an example follows:

"An alien creature appears in the room I am in. I become lucid. I turn around and imagine its gone. But I couldn't escape the room! So, I began walking anti-clockwise to complete a square. No changes. I then repeated the exercise. This time images appeared with each step. The colours were dull. As I continued the scene expanded, became clearer as I was outside in the middle of a highway. The streets seemed infinite. I continued and then I was raised on a square stage above the traffic and then continued walking in the square. As I looked down, the scene became even more focused and expansive. More cars and colours appeared around me as I completed the square."

4. Discussion

Surprisingly, since none of the participants had been trained or prepared for the dream tasks, the majority of lucid dreams reported completing the task (35/63). As expected, those with more lucid dream experience tended to be more likely to be successful. (Stumbrys et al, 2014). A number of participants reported three attempts at the same task, showing a significant improvement in completing the goal.

The majority of lucid dream reports show spontaneous objects and events occurring (outside of the control or expectation of the lucid dreamer). If lucid dreamers control the lucid dream, then how does one account for the appearance of spontaneous objects and events in lucid dreams?

The appearance of spontaneous objects and events suggest that unconscious activity occurs in lucid dreaming along with the lucid dreamer's conscious activity. Therefore, lucid dreamers do not control the lucid dream, instead they influence the lucid dream and relate to both conscious and unconscious activity.

If unconscious activity exists in lucid dreaming, then one might question the activity as either random or significant in some respect (i.e., symbolically related to the activity). The frequency of the unconscious activity's appearance (across lucid dream reports) may serve as one indicator of its significance and non-randomness. Also, the relationship, if any, between the unconscious activity and the lucid dreamer's intent or actions may serve as another indicator of its significance and non-randomness. By all appearances, the unconscious activity in response to the lucid dreamer's intent (to create a geometrical shape) showed elements of frequency (i.e., spontaneous change in light and colour, etc.) and relationship (i.e., obstacles along the path, helpful characters, objects), and imbalances in the dream imagery of the body.

A predominance of colour/light, especially bright colours appeared spontaneously in lucid dreams that were associated with a successful or a near completion of the task. The appearance of colour/light at turning points in the square and triangle and in the completion of the circle was obvious in the majority of cases (37/63), see Table 2. Three of these dream reports recorded experiencing almost unbearable intense energy during the exercise, as though they had tapped into a hidden energy source. Case d (square) and completing the triangle were two examples.

Lucidly moving through dream space suggests that goal-oriented movement may naturally call forth symbolic or unconscious activity. The presence of spontaneous obstacles or barriers may possibly be related to unconscious psychological issues (e.g., concerns, doubts, fears). In turn, the spontaneous appearance of helpful characters and objects may indicate areas of balance in the mind field of the lucid dreamer. This could be a topic for future research.

Successful completion of the lucid dream tasks was associated with the increased appearance of colour/light and no obstacles. In the square and triangle, many cases involved opposite imagery appearing at diagonally opposite corners of the geometric figure. This symmetry may suggest a balance of internal forces being held by the psyche, which could explain why the tasks were successful.

One may argue that the participants who were more successful in revealing and balancing their polarities when performing the tasks, showed greater clarity in the dream and in the images emerging; more colours and an ability to overcome the 'unconscious' obstacles that presented themselves in the dream. Past observations about the psycho-spiritual awakening process (Hamilton, 2018) indicated that dream images of circles, triangles, squares, cubes, spheres, pyramids or colourful images based on such symmetrical geometric structures coincided with a balancing of the psyche, greater clarity of insight and a shift to a more mature level of consciousness. Conversely, when tracing out such movements in a lucid dream in this case the square, the circle and the triangle it appears that imbalances and balances of the polarities can be exposed through the imagery and in the dreamers' body.

According to Tibetan Dream Yoga, the appearance of colour/light in the state of lucid dreaming (or meditation) sug-

gests clarity of mind (Norbu, 1992). Wakeful mindfulness also appears to be a strong predictor of the ability to control lucid dreams (Stumbrys et al, 2015).

A lack of inner clarity may be evidenced by the dream obstacles, during the lucid exercises. as well as by lack of colour/light in the dreams and is therefore more likely to be associated with the decreased ability to complete the dream exercises.

The degree and extent of the dream's response to the participant's attempts at the dream tasks was unexpected, given that three simple abstract figures were being drawn in the lucid dream. Clearly interacting with the dream 'field' and the subsequent unexpected and spontaneous response indicates that dreamers do not control their dream 'field'. i.e. the dream landscape, in which the dreamer simply impresses their intention upon it is not neutral. This was more evident in the large figures drawn in the outside landscape of the dream.

As a pilot study, this effort sought to underscore that unconscious activity occurs in lucid dreaming. Moreover, the unconscious activity appearing in lucid dreaming does not seem random or insignificant; instead, the unconscious activity seems principled and connected to psychological issues. Obviously, further research and studies need to be undertaken to understand these issues more clearly and provide insight into lucid dreaming's ability to uncover the principles of unconscious activity.

Note

The experiment was a joint effort between the Dream Research Institute (DRI) in London, and Robert Waggoner, co-editor of the Lucid Dreaming Experience magazine (LDE).

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