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## CONSCIOUSNESS AND ABILITIES OF DREAM CHARACTERS OBSERVED DURING LUCID DREAMING<sup>1</sup>

PAUL THOLEY

*Johann Wolfgang Goethe-Universität Frankfurt*

*Summary.*—A description of several phenomenological experiments is given. These were done to investigate of which cognitive accomplishments dream characters are capable in lucid dreams. Nine male experienced lucid dreamers participated as subjects. They were directed to set different tasks to dream characters they met while lucid dreaming. Dream characters were asked to draw or write, to name unknown words, to find rhyme words, to make verses, and to solve arithmetic problems. Part of the dream characters actually agreed to perform the tasks and were successful, although the arithmetic accomplishments were poor. From the phenomenological findings, nothing contradicts the assumption that dream characters have consciousness in a specific sense. Herefrom the conclusion was drawn, that in lucid dream therapy communication with dream characters should be handled as if they were rational beings. Finally, several possibilities of assessing the question, whether dream characters possess consciousness, can be examined with the aid of psychophysiological experiments.

In lucid dreams, dream characters sometimes give the impression of having consciousness of their own. They speak and behave logically, perform amazing cognitive feats and express in their behavior distinct purposes and feelings, but do they have a consciousness of their own? Probably many scientists will not hesitate to answer the question with 'no' or to reject it outright as being meaningless. To avoid rash judgments, we wish to give a precise explication of the question by distinguishing it from other interpretations.

In stating that dream characters have consciousness of their own, we do not mean that these are independent beings in the way that occultists and spiritualists think of ghosts or spirits. Rather it is our view that all dream characters, including the dream ego, arise in the brain of the dreamer. This argument is supported by the working hypothesis of psychophysical parallelism or isomorphism. Whereas sensory inputs tend to dominate in the contents and the organization of the perceptual world in the waking state, central brain processes are largely responsible for the events of the dream world. One characteristic of these brain processes is that they are related to

<sup>1</sup>This article is based essentially on a series of investigations which began at Frankfurt University in 1979. Krist (1981) first reported the initial results and planned investigations. The English version which appears here draws information from a more extensive German article (Tholey, 1985). The latter work deals with the theory of consciousness in connection with the mind-body problem in greater detail. We have, however, incorporated more recent results and possible therapeutic applications into this article. Address correspondence to Dr. Paul Tholey, Institut für Psychologie, Mertonstrasse 17, 6000 Frankfurt am Main, West Germany.

cognitive and affective memory processes. Whether certain brain processes become conscious is thought to depend on the dynamic characteristics of these processes—of which we know very little to date. It is then theoretically possible that more than one consciousness can develop in a single brain.

First of all, however, we wish to differentiate between various meanings of the term 'consciousness.' If someone says that a person has lost consciousness (e.g., as the result of a blow on the head with a hammer), then we mean that this person's entire phenomenal (mental) world or field has disappeared. Experiments with split-brain patients seem to show that in such patients each brain hemisphere can probably be related to consciousness or phenomenal field. However, each consciousness is strictly divided from the other, if direct dynamic connections no longer exist between the two hemispheres.

It is possible though, for people to experience a double consciousness, i.e., a double phenomenal world. This sometimes occurs, for example, on waking from a dream. At such times it is possible to experience a dream ego in the dream world as well as a waking ego which is lying in bed. This occurrence is due to an overlapping of two phenomenal fields—the dream world and the perceptual waking world.

The essential difference between these two cases is that the existence of a double consciousness in a split-brain patient can only be determined by an examination of the patient's statements, actions, and manifestations of expression, whereas in the latter case, the subject experiences a double consciousness directly.

Contrary to these two definitions, what we understand here by consciousness is not a phenomenal field, but facts in the phenomenal world. Consciousness can then be defined as the participation of a phenomenal "I" in phenomenal objects or events from its own position, not only by its perception, but also by its imagination, memory, and thought (Duncker, 1947). By this definition the dream ego has a consciousness in lucid dream. It observes the dream scenery from its own position, displays good powers of recollection and can think rationally. In earlier experiments we described the cognitive tasks which can be accomplished by the dream ego (Tholey, 1981). Here, however, we are interested in whether another dream character which meets the dream ego has a consciousness in the sense just described. This question cannot be answered definitively because metaphysical implications are involved. It can, however, be researched empirically to a certain degree with the aid of phenomenological and psychophysical experiments. Following a discussion of phenomenological results, suggestions are given for further psychophysiological experiments which are pertinent to this problem.

Our aim was to establish whether dream characters can or cannot show

accomplishments which support or disprove the hypothesis that they see and act in the dream scenery from their own observer perspective, that they have their own access to the memory, and that they appear capable of creative and independent thought. To this end, experienced lucid dreamers were instructed to set their dream characters various tasks while lucid dreaming.

#### METHOD

In our exploratory study, we used the so-called phenomenological experimental approach; for details see Tholey (1986). In contrast to the traditional experimental approach, the independent and/or dependent variables are of a subjective nature. In spite of this, phenomenological experiments are intersubjectively valid and replicable, provided different subjects report, independent of one another, corresponding experiences.

Nine male subjects (seven students and two psychologists) took part in the study. They were all experienced lucid dreamers who had learned how to induce lucid dreams by means of the combined reflection technique developed by the author (1977). This technique primarily stresses training in the development of a critical-reflective attitude of mind but also contains elements of intention and suggestion: the subject should ask himself the critical question ("am I dreaming or not") at least five to ten times a day. It is especially helpful if the subject asks himself the critical question in situations which are characteristic of his own dreams. Since the dream experiences in the reflexive or pre-lucid phase (in which the subject asks himself the critical question) are as a rule less bizarre than those in the preceding dream phase, it is important for recognition of the dream state that the subject should try to recollect the events immediately preceding the question; for details see Tholey (1983, pp. 80-82).

The subjects were instructed to set other dream characters certain tasks during lucid dreaming. The tasks set were drawing or writing: to draw or write something which was upside down from or opposite to the position of the dream ego (the other dream character sat or stood opposite the dream ego); (2) naming an unknown word: to name a word which is unknown to the dream ego; finding rhyming words: to find rhyming words for a specific word; (3) finding a rhyming verse; (4) doing arithmetic: to solve both simple arithmetic and problems requiring mental arithmetic, not to be solved by the dream ego beforehand. To this end, the subjects were instructed to set for the dream characters addition and multiplication tasks of varying degrees of difficulty.

In a single lucid dream, subjects were allowed to set several dream characters one or more tasks (see 'Miscellaneous' below). The dream report was recorded either in writing or on tape, immediately upon the subject's awakening. At the beginning of the study, neither the subjects nor the ex-

perimeter knew to what extent the dream characters were capable of solving the tasks. While the study was taking place, subjects did not discuss their own reports with other fellow students. The study lasted for several months.

### RESULTS

Our findings to date are based on reports from 92 lucid dreams. At least six lucid dreams per subject were considered. It is important when evaluating the results to take into account that, in our exploratory study, we were only concerned to establish whether any of the dream characters who appeared could solve the tasks set them.

It is true an individual dream report cannot be tested intersubjectively, but some regularities based on independent dream reports of several subjects possess a certain degree of intersubjectivity. Therefore, only if at least three subjects reported a dream character had successfully accomplished a given task, we saw this as support that such a task could be performed. If the results are seen in this light, then it can be argued that various dream characters were, in fact, cooperative and able to solve the first four tasks. However, the number of right solutions varied strongly from one subject to another. This number seems to depend on how experienced the subjects are as lucid dreamers, but also on the experiences the dream characters have in solving a single task. To illustrate the problem solving we give examples of each task.

#### *Task 1: Drawing or Writing*

*Example 1.*—"Then the man takes the pencil out of my hand and proceeds to make a quick, accurate sketch of a face on a magazine. From my perspective, the face is upside down. Amazed, I turn the magazine around 180° so as to look at the face more closely. The drawing remains the same; after some time, however, I see the sketch 'properly' (a reversal takes place). The picture shows the face of a person playing pinball; the head is lowered so that only the moustache and nose are visible from above. I look at the picture again; it could not be more accurate."

*Example 2.*—"I ask my girlfriend to write something. Very slowly and somewhat clumsily she writes '3ZWG.' (I don't understand the meaning of this sign). She is standing right beside me and as she writes the 'G,' I observe clearly the movements her hand makes in forming the letter. When she has finished, she walks away. I get her to write again; she is now standing opposite me and writes on a board, a sort of writing slate. With rapid movements she writes the word: 'Lippestraße.' The writing is upside down from my position. (The word she writes is the name of the street on which I live.) Her writing has an attractive and uniform appearance. I am very pleased."

These and other experiments support the hypothesis that some dream characters can write or draw as if they were observing the dream scenery from an observer's position. The last reported lucid dream took an interesting turn. Some two months after the dream, the student reported upon this lucid dream. When he wrote '3ZWG' on the board, it was pointed out to him that this was the usual abbreviation for '3-Zimmer-Wohnung' (three-room apartment). This explanation had a bearing on one of the problems at that time. His girlfriend wanted him to move out of his apartment in 'Lippestraße' and to move with her into a three-room apartment.

This turn of events illustrates an interesting point about lucid dreaming, namely, that dream characters are obviously able to express something, without the dreamer himself understanding the meaning of what the dream character is expressing, even after awakening.

#### *Task 2: Naming an Unknown Word*

*Example 3.*—"I meet a female acquaintance in the room. I ask her, as I had planned to, if she can tell me a foreign word I am unfamiliar with. She immediately says: 'Orlog. The word Orlog describes our relationship.' I fail to understand her as the word 'Orlog' is unfamiliar to me. When I later ask the woman what this word means, she denies having said it, arguing that she used the word 'Charme' (charm). On explaining this she gives me a warning glance."

After waking, the subject looked up the word 'Orlog' in a dictionary and found it to be a Dutch word which roughly translated means 'quarrel.' The interesting point here is that dream characters are seemingly able to lie, something which is supported by other experiments. (For a further example, refer to 'Miscellaneous' below.)

#### *Task 3: Finding Rhyming Words*

*Example 4.*—"I drive into a side street and stop my car upon seeing an elderly man, a stranger. I consider for a moment which word I should ask him to find rhyming words for and then say: 'Excuse me. Would you care to give me some rhyming words for 'Tanne' (fir tree)?' I encounter a bewildered look. Meanwhile, I have thought of the words 'Wanne' (bathtub) and 'Kanne' (jug) myself. Then, however, the stranger says: 'Panne!' (accident, breakdown). This immediately reminds me of an accident which happened to me some days back in the waking state when my car broke down. Soon afterwards I wake up."

#### *Task 4: Rhyming*

*Example 5.*—"I ask a group of psychologists: 'Can you say something about me in rhyme?' The psychologist standing nearest to me says: 'In dem Dunkel der Nacht/hat er sich umgebracht.' [In the dark of night/he took his own life.] The verse reminds me at once of a lucid dream I had years ago, at

a time when I was going through a crisis. The verse began with the words: 'Ich ging in den Abend/und suchte die Nacht/die Gedanken in's Dunkel zu senken.' (In the dim light of evening/I searched for the night/to sink my thoughts into the dark.)"

The dreamer, a psychologist, interpreted this verse to mean that he had relinquished his own self during the crisis in which he experienced the first poem. With reference to our problem, it would seem of significance that dream characters can not only recall parts of their waking state, but can also remember earlier dreams.

The following report is from a psychologist, who at the time of his dream was feeling lvelorn.

*Example 6.*—"I am lying in a meadow, looking up at the night sky. Angel-like creatures—I cannot tell exactly what they are—appear before me. I look up to the heavens and cry: 'Can you recite me a poem?' I then hear a melodious, but melancholy chorus of voices from above. They sing in French and as my French is not that good, I am only able to catch the first verse: 'Chantez sur la maladie/d'amour/c'est une mélodie/contre la vie!' [Sing a song of the pains of love/it is a song against life!]"

*Example 7.*—"I see a small boy in the corridor. 'Give me a line of a poem!,' I say to him. 'Postal erhält Du Dein Geld direkt!' [The Post Office will transfer your money direct!], he replies. I take this to be an important piece of advice concerning the transfer of money, but show my disappointment that the line does not rhyme. At this the boy says: 'Ah, but I didn't mean 'direkt' (direct), but 'direktal.' He has created a new word, which can be seen synonymous in meaning with 'directly.' His final version is: 'Postal erhält Du Dein Geld direktal!'"

#### *Task 5: Doing Arithmetic*

*Example 8.*—"I now see a group of children aged about six or seven. When I ask one of the boys if he can do sums, an elderly man (no doubt their teacher) pushes his way to the front and says: 'The little ones can do simple sums.' 'What is two times two?' I ask the boy. 'Four!' he answers at once. 'And what is three times three?' I then ask. 'Nine' the boy replies, without hesitation. I decide to ask something more difficult. 'What is three times seven?' After a short pause the boy answers, 'Eighteen!' As the disappointment shows in my face, the teacher again jostles his way forward and says, 'I told you that they could only do simple sums. We haven't gotten past ten in our arithmetic yet . . .' I go back into the street to set problems to some adults. The first person I see is a well-dressed middle-aged man. 'Would you mind doing some arithmetic for me?' I ask. He makes a dismissing gesture with his hand to indicate his annoyance at my request and his unwillingness to comply with it. The next man I ask is much friendlier. 'But of course' he replies. 'Fire away!' He seems to find the situation very inter-

esting. 'What is four times four?' I ask. 'Sixteen' he says, without hesitation. 'But seriously' he continues, 'do you take me for a dummy, asking me such simple questions! You seem to think I'm a child.' His words excite me because I feel that here is someone at last capable of solving a problem whose answer I do not know in advance. I consider giving him a multiplication problem to do, with numbers between ten and twenty. But this would also be too easy for him, it occurs to me. And so I decide to give him a sum with numbers over twenty. I think of twenty-one times twenty-one. However, this still seems too easy a task for the 'professor.' Meanwhile, the latter has become tired of waiting. He waves goodbye and disappears. Extremely disappointed, I wake up . . ."

*Example 9.*—"As I am not convinced of the intellectual ability of the little boy, I decide to begin with an easy question. 'What is one times one?' 'One' the boy answers. 'And what is three times four?' 'Eleven' the boy replies after a moment's hesitation. At this I laugh and say, 'You can't even do simple sums. The answer is twelve!' A superior smile appears on his face. 'But, I didn't solve *your* problem. I worked out what seven plus four is, and the answer to that is eleven, isn't it!'"

Although the dream character had difficulty solving the last problem set by the dream ego, it did show a certain independence of mind. The dream character set itself a problem and then proceeded to answer this correctly.

In an earlier article (Tholey, 1985), I emphasized that (in 32 lucid dreams of nine subjects) not one of 60 dream characters was able to solve the arithmetic problems set them when the answer was more than twenty. In later experiments, it emerged that some dream characters can solve problems whose answer is more than twenty (e.g., five times five, or six times six). However, in each case, the dream ego knew the answer to the problem before the dream character did.

#### *Miscellaneous*

*Example 10.*—"As I had decided to experiment with drugs in a dream, I hit upon the idea of . . . flying to Jamaica as one can get very good marijuana there. As I lean back in my airplane seat, I notice an extremely beautiful air stewardess. She has long blond hair, is very pretty, and she is smiling at me . . . 'What's your name? Who are you?' I ask. 'My name is Cyra. I am your dream companion' she replies. 'I'm coming with you.' At that moment I feel as if I have gained a dream friend . . . As if Cyra has guessed what I want her to do, she writes down her name on a piece of paper. I then ask her what eleven times eleven is. She hesitates and then says '141.' A short time elapses before I realize her answer is wrong. Then I remember my original aim for this dream and I make up my mind to continue my journey with Cyra . . ."

On waking, the student looked up the name Cyra in a special dictionary and found to his astonishment that 'Cyra' (the female variant of a Greek word: 'Cyrillus') means "she who belongs to the Lord," or "she who is dedicated to the Lord." The dreamer claims never to have heard either the word 'Cyra,' or 'Cyrillus.'

#### *Additional Findings*

A brief report now follows on findings which arose out of our general investigation and which have an important bearing on the question of consciousness. The learning capacity of dream characters, a subject only as yet touched upon, will also be discussed.

Dream characters show themselves to be especially ingenious when it is a question of outwitting the dream ego. If one tries, for example, to root them to the spot with a stare, they will attempt to avoid the dream ego's gaze—either by employing jerky eye movements, or by putting on a hood, or by switching off the light. Recurrent dream characters often behave as if they had learned something from their experiences in a previous dream. If they were fixed with a stare in a previous lucid dream, then it is likely that they will appear in a hood at the beginning of a subsequent dream or will resort to some other method of evasion.

It is also remarkable that though some dream characters may try to dissuade the dream ego in the pre-lucid phase from the belief that a dream is taking place, others actually make the dream ego recognize that it is dreaming. This is not only in agreement with the hypothesis that some dream characters seem to have a consciousness but furthermore shows that they seem to become lucid even sooner than the dream ego. In this context, another interesting phenomenon is the fact that it is possible to arrange to meet a dream character in a future dream, albeit in rare cases. In an earlier article (Tholey, 1985). I cited an example of a dream character in a lucid dream later appearing in a normal dream and imparting lucidity to the dream ego. It was also observed that some dream characters seem to be able to recall previous dreams and are even able to give the dream ego correct information about the dreamer's past (in the waking state) which the dreamer himself had forgotten. If a dream character is asked whether it has a consciousness of its own, one can reckon with an answer along these lines: "I am sure that I have a consciousness, but I doubt if you have one, because you ask me such stupid questions!"

To investigate whether dream characters have a consciousness of their own, we also developed a method that involves the 'ego core' of the dream ego leaving its own body and entering into the body of another dream character. By this method the dream ego is believed to experience directly the consciousness of another dream character, especially the thoughts, feelings, and purposes of the other dream character. To illustrate this "entering into

the body of another dream character," we include an example from a young girl, who in her dream meets a young man.

*Example 11.*—"All at once I knew that I was dreaming . . . It was then that I became aware of my spirit, that is, that part of me I think of as my "self," detaching itself from my body and floating across to his body. In this bodiless state I was able to use all my senses to orient myself, that is, seeing, hearing, feeling, etc. After I had left my body, I still saw it standing there, doing some sort of fiddly work and talking. In other words, you could not tell by looking at my body from the outside that I was no longer inside it. So I floated across to the boy and slipped in his body. As I did so, I had the feeling that I had taken over all his vital body functions and his motoricity . . . I saw with his eyes, I saw my body standing there engaged in some sort of activity. I also saw his spirit, his consciousness, I saw him thinking, without being able to remember how this came about . . . I saw how he perceived me, the effect I had on him, and the feelings he had for me . . ." (Tholey, 1988, pp. 283-284; for further examples see also Tholey and Utecht, 1987).

#### PRACTICAL CONSEQUENCES FOR THERAPY

If the findings of our investigations are viewed as a whole, it is necessary to emphasize the following point: despite the fact that dream characters' performance in arithmetic is not better than that of primary school beginners, some of them at least are capable of remarkable cognitive achievements in other areas. In other investigations, we also wanted to find several achievement areas in which the dream characters fail completely, but we have not, as yet, been able to discover any.

Although we have not specifically drawn attention to the fact, it can be very clearly seen from the examples described here, that dream characters act as if they had their own intentions and feelings. From an empirical point of view, therefore, our investigations so far seem to support rather than disprove the hypothesis that dream characters have consciousness of their own.

Although it will never be possible to prove this hypothesis beyond any doubt, we have concluded, on the basis of our findings, that for practical purposes, dream characters are to be taken as seriously as if they had a consciousness of their own. It then follows that one should not resort to aggression in an attempt to resolve a quarrel with a hostile dream character but should discuss the matter openly. If such a method is used, aggressive dream characters are often more prepared to settle their dispute with the dream ego peaceably (Tholey, 1988). If this can be achieved, it may result in an immediate end both to nightmares and to neurotic anxiety symptoms during the waking state.

What is the significance of this? In basic terms we can say that the appearance of a hostile, threatening dream character may reflect, in symbolic

form, an internal psychological conflict. The threatening character is often the personification of a 'dissociated,' a 'repressed' or an 'isolated' subsystem of the personality. The effect of settling a dialogue with the dream character peaceably is to cause the originally isolated system to come into communication with other systems and eventually be integrated into the total personality (Tholey, 1988). Our current findings suggest that the above-mentioned technique of entering with the 'ego core' into the body of another dream character is more effective than the technique involving dialogue with another dream character, but it generally requires more practice.

Once subsystems of the personality become isolated, the great danger is that the former may absorb increasingly more energy under the influence of continued unfavorable experiences and that this may then lead to a neurotic dissociation of the personality.

In extreme cases, there may be a division into several partial personalities which may, in turn, take over motoricity, including verbal behavior and expression as occurs in cases of multiple personality. In my earlier article (1985), I had pointed out that, even where such serious disorders are concerned, a constructive dialogue with the therapist and the partial personalities can lead to dramatic success. I had also stressed an important difference between such dialogues and the dialogues which take place between the dream ego and other dream characters, namely, that in the case of serious disorders, the dialogue is usually conducted by a therapist who has first hypnotized the patient. A short time later, I read an article by Salley (1985) which demonstrated that dream work can also prove effective in the treatment of multiple personality patients. His explanations support the hypothesis that subsystems of the personality which are otherwise isolated from one another may achieve closer dynamic contact during dreaming (see also Lewin, 1936). In lucid dreams this contact can be increased and become more solid through dialogue with dream characters. Lucid dream work, compared to nonlucid dream work, is, therefore, more likely to effect healing sooner and more often not only for neurotic patients (Tholey, 1988) but also for patients with multiple personalities.

#### SUGGESTIONS FOR FURTHER EXPERIMENTS

We have developed a series of further experiments for the psychophysiological investigation into consciousness of dream characters and have already begun to carry out these experiments. In conclusion, however, we would like to give brief details of the possibilities for psychophysiological experiments. LaBerge (1983) has shown that during lucid dreaming, an analogue change takes place on the EEG when the dream ego begins a new activity, as is observed in the waking state.

The next logical step would be to investigate whether analogous

changes also take place when the other dream characters change their activity (ideally, the dream ego should remain engaged in the same activity).

In an earlier work (Tholey, 1977), I had indicated that the dream ego may be able to give information to the 'outside world' through eye movements and EEG readings. (This assumption was later proven to be correct.) This then leads us to the question of whether other dream characters are also able to send out information to the 'outside world.' If, for example, in cases of multiple personality, different partial personalities are able to take over motoricity, then it is possible for different dream characters to control physiological parameters, such as the EOG.

Phenomenological findings also seem to support this possibility. In the article just referred to, I had drawn attention to the fact that the fixation of the dream ego generally leads to the subject waking up. In current experiments it has emerged that, when other dream characters expressly request the dream ego to fix them with a stare, this also leads to the subject's waking up.

Psychophysiological experiments are necessary to prove this conclusively. At present, we are using an apparatus which was originally designed for the induction of lucid dreams. With the aid of this piece of apparatus, two-way 'communication' between the dream ego and the apparatus is possible. In other words, the dream ego can send signals to the apparatus via the EOG and the apparatus can—after a time delay—relay certain signals back: the signals being below the level required to wake the subject up. Work is now being done on improving the apparatus so the question of whether other dream characters are able to send signals to the 'outside world' can be given a definitive answer.

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