A cognitive model explaining the psychophysiological system responsible for the effectiveness of The Storytelling Method of Dream Interpretation

Umberto Barcaro[1], Teresa L. DeCicco[2], & Ovidio Salvetti[3]

[1]University of Pisa, Italy
[2]Trent University, Canada
[3]National Research Council, Italy

Summary. The Storytelling Method of Dream Interpretation has been found to be valid and reliable while yielding a meaningful interpretation for dreamers more than 80% of the time. A cognitive model explaining the psychophysiological system responsible for the effectiveness of the method is proposed. The model describes a dream in terms of an input–output relationship where the dream-builder system is viewed as a system whose input is given by the dream sources and whose output is given by the dream experience. The model proposes a cascade of two sub-systems that can account for basic properties of dreams such as the continuity hypothesis, the role of dreams in turning-points of a dreamer's life, the problem-solving capacity of dreams, while accounting for the effectiveness of The Storytelling Method. An application of the model with the method is also demonstrated with an example.

Keywords: psychophysiological model, TSM, dreaming

1. Introduction

Dream interpretation has had a long history and a significant place in the psychological literature since Freud (1900; 1901) and Jung (1934). More contemporary work has produced a very wide range of books and writings on dream interpretation techniques (For examples see: Barcaro, 2010; DeCicco, 2009; Delaney, 1993). Recent studies have shown that dream interpretation connects dream imagery to the dreamer's life in relevant and meaningful ways (DeCicco, Lyons, Panier & Wright, 2010; DeCicco, 2009; 2007a; 2007b; DeCicco & Higgins, 2009; Goelitz, 2001; Wadensten, 2009). For example, it has been found that recovering alcoholics find meaning in their dream imagery related to their addiction, to their recovery, and to past events directly relating to their addiction (DeCicco & Higgins, 2009). University students report dream meaning to be related to school, romantic relationships, and to their emotions in relation to these two factors (DeCicco, 2007a; 2007b; Clarke, DeCicco, & Navara, 2010). Similarly, cancer patients find meaning in their illness and in waking day concerns via dream interpretation (DeCicco, Lyons, Pannier & Wright, 2010; Cannici, Malcolm & Peek, 1983; Davidson, Feldman-Stewart, Brennenstuhl & Ram, 2007; Davidson, MacLean, Brundage &

Schulze, 2002; Horton, 1998; Ward, Beck, Roscoe, 1961). Dream interpretation has been found to be a useful venue for self-exploration and for providing effective coping strategies (Hill, 1996; 2003). Past research findings imply that dream meaning is directly related to the cognition of dreamers in terms of their own relevant waking life events. Furthermore, given previous research findings and the fact that dreamwork and dream interpretation are high in the general public (Schredl, 2010), further inquiry into understanding this psychological process is warranted.

1.1. A cognitive model explaining the significance of the Storytelling Method of Dream Interpretation

The dream interpretation technique coined The Storytelling Method (DeCicco, 2007a) is one that has been given considerable attention in the scientific literature, in clinical practice, and in use by the general public. It has been found to be useful for providing insight to dreamers while being reliable and valid (DeCicco, 2007a). When given a dream report provided by the dreamer, the Storytelling protocol allows the dreamer to easily and quickly provide an alternative narrative which is closely connected to the dream, but at the same time, is sufficiently different to lead to a better insight into the meaning of the dream. This method is interesting from both linguistic and cognitive points of view; it consists of choosing a small number of significant words in the dream report, in the production of associated words, and at last, in the construction of a new narrative containing the associated words in the same order as the original words in the dream report. Research has attempted to understand the reasons for the effectiveness of this method in light of a cognitive model of the psychophysiological system responsible for dream production.
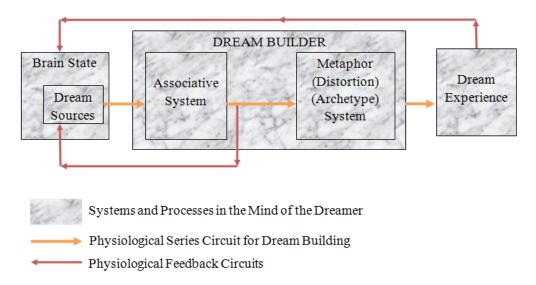
If the construction of a dream is described in terms of an

Corresponding address:
Teresa L. DeCicco, Trent University Thorton Campus, 55 Thornton Road S., Oshawa, Ontario, Canada. L1J 5Y1
Email: tdecicco1@rogers.com

Figure 1. The psychophysiological model depicted with 2 sub-systems.

input–output relationship, the dream-builder system could be viewed as a system whose input is given by the dream sources and whose output is given by the dream experience (Cavallero & Cicogna, 1993). The dream sources can be either memory sources or general assertions that are connected to episodes of the dreamer's life and to present concerns of the dreamer. Although the interpreter, who can also be the dreamer himself in the case of self-interpretation, cannot directly access the actual dream experience, we can assume that the dream report provides a fairly trustable report of this experience. As a number of authors have underlined (e.g. Hartmann, 1995), a basic property of the dream builder system is that of making connections. The dream sources are closely interwoven, and graphs representing the sources as nodes and the arcs as links can be semantically interpreted according to heuristic rules (Barcaro, Cavallero, Navona, 2005). From this point of view, the dream builder system can be described as a feedback system (Barcaro, 2010), because the output (i.e. the dream experience) affects the input (i.e. the dream sources) either by creating links among dream sources or, if they already exist in the dreamer's mind, by changing their properties as a consequence of the dream experience. More generally, since the heuristic rules state that the links among dream sources insert present concerns into a positive or less negative context, the feedback property of dreams can positively affect the dreamer's mood, which is in agreement with Kramer's theory (Kramer, 1993). This description of the dream builder system accounts for other basic properties of dreams, in particular, the continuity between the life of the dreamer and his or her dreams (recently amply discussed in Hartmann, 2010), the role of dreams in turning-points of the dreamer's life (See Siegel, 2002; Siegel & Bulkeley, 1998), and the problem-solving capacity of a number of dreams, including historically famous creative dreams (Barrett, 1993).

On the other hand, dreams also have a metaphorical content which somehow puts them apparently distant from the personal experiences of the dreamer, a phenomenon which Freud described as dream distortion and Jung interpreted in terms or archetypes. Furthermore, the exis-

tence of typic al dreams can hardly be explained only in terms of direct connections between the dream experience and the personal experiences of the dreamer's life.

In the light of this twofold property of dreams, we can very schematically represent the dream builder system as the cascade of two sub-systems, the output of the first being the input to the second. The first sub-system has the same input as the dream system described above (i.e. the dream sources). However, the output of this sub-system is no longer the dream experience, but something which is much more difficult to access. We will call this output the "virtual dream" as it can be viewed as the dream that would occur if the second sub-system would not exist. The first sub-system has the properties indicated for the above model as it is a feedback system establishing or modifying the links among the sources. It explains the continuity property, which is a general property of dreams, as well as the role of turning-point dreams and the problem-solving capacity of a number of dreams. The second sub-system processes the input that above we have coined 'virtual dream' and provides the dream experience as output. The combination of these two sub-systems has the remarkable feedback property which can generally be attributed to dreams. In fact, the input, which is a sub-set of the dreamer's mind, affects the dreamer's mind itself, both by means of an assimilative process, which works even when the dream is completely forgotten, as most frequently happens, or by means of an accommodative process, as the consequence of a reflection on the part of the dreamer on a recollected dream (Piaget, 1962, Kramer, 1993). This psychophysiological model, based on the cascade of two sub-systems, is shown in Figure 1.

Figure 2 then adds the interpretative stage to the model. By processing the dream report by a variety of interpretative methods (for a detailed description and comparison of a number of methods see Barcaro, 2010; DeCicco, 2009; Delaney, 1993; Hill, 2003), the interpretation of a dream can provide information about its sources and about the significance of these sources in the mind of the dreamer.

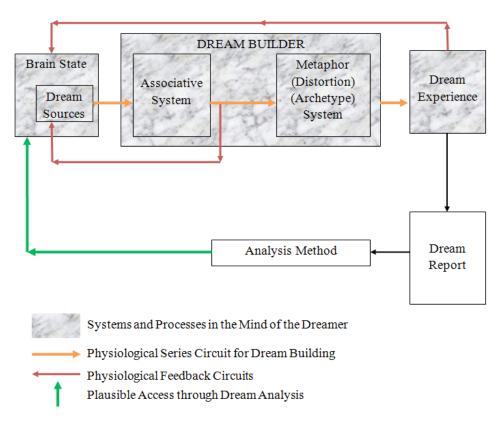The Storytelling Method can be credited with a twofold

Figure 2. The psychophysiological model with the interpretive stage.

role. First, it is a facilitator of dream interpretation, because it helps identify the sources of a dream and it also accounts for the role of dream construction. In fact, traditional methods of dream analysis can be efficaciously applied considering the alternative narrative produced by the Storytelling Method instead of the original dream report. As Figure 3 illustrates, a further hypothesis concerning a significant property of The Storytelling Method can be advanced. This method can provide an access to the "virtual dream", i.e. a dream which, although having never existed as a real dream experience, can be conjectured as the output of the first of the two sub-systems of the dream builder system. The "virtual dream" is more contiguous to the dream sources than the real dream. This property renders the Storytelling Method remarkably interesting from the cognitive view, and, useful to dream interpretation for therapeutic purposes.

2. Applying the Model

An example of model application can make this clearer. Let us consider the following dream report (DeCicco, 2009), in which the words which the dreamer chose when applying The Storytelling Method as the most significant are underlined, and the words which were associated with them are put between brackets.

Dream Report: My boyfriend and I are asleep [peaceful] in my bed. The light is either on, or it is daytime [sunny]. I wake up to something falling on me [hurt]. It's a huge spider [black and hairy]. I scream [scared] and jump out of the bed and wake up my boyfriend. At this point, I notice there are spiders all over the ceiling [roof]. My mom comes into the room because of the screaming and sees

the spiders [unsafe]. She isn't afraid and starts killing the spiders [safe] right away. When she kills them they just disappear [go away]. She decides we should take the sheets off my bed, and as we are doing this, the spiders start crawling out [unsafe] of my mattress and I realize I was sleeping on them the whole time.

Carrying out the further stage of the Storytelling protocol, the dreamer provided the following alternative narrative:

Alternative narrative: It was a peaceful and sunny day when I got very hurt. The black and hairy monster of a man scared me. I wanted to run to the roof because I was so unsafe. In order to be safe again I had to go away. I never want to feel unsafe again.

The dreamer provided associations which allowed identifying two memory sources. The former association regarded an episode of the dreamer's adult life, while the second expressed a concern which derived from childhood experiences and contained an explanation of the connection between the episode of the first association and the concern:

Source 1. The story relates to a night when I was out at a club with my friends. A man who seemed very dark and mean approached me. When I shunned him, he became angry and that scared me. I just wanted to get out of there because I felt so unsafe around him.

Source 2. My dad scared me when I was a child because he would get violently angry if he didn't get what he wanted from us. The man in the club reminded me that people like my father scare me. I don't want to be around them.
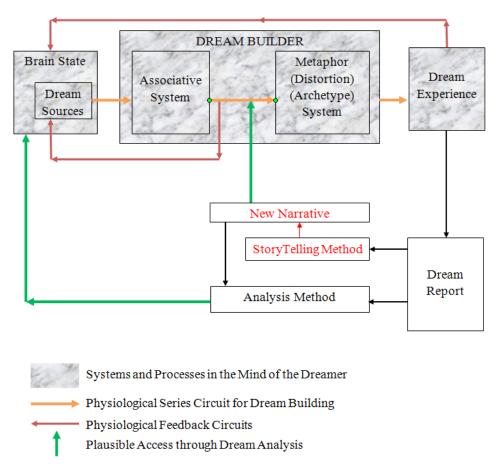
Figure 3. The psychophysiological model and the The Storytelling Method
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If we apply the method proposed by Barcaro et al. (2005) we can identify the following links between the two sources: (a) to scare, (b) angry, (c) get out / not to be around. Both in the dream report and in the alternative narrative the items (a) and (c) can be identified, but the context in which they are inserted is remarkably closer to the sources in the alternative narrative than in the original dream report. In fact, with regard to item (a), the dreamer is explicitly scared in the alternative narrative, while this feeling is not overt in the dream report, in which it is underlined that Mother was not scared. With regard to point (c), the dreamer expresses the decision of escaping from the scaring situation in the alternative narrative, while the solution is very different in the original report, in which the spiders are killed. In other words, the dream solution is very aggressive, while the solution offered by the alternative narrative is mild, e.g. proper of the current lifestyle of the dreamer. The figure of Mother has been cancelled in the alternative narrative, thus denoting that the dreamer's lifestyle includes an overcoming of direct parental references. Another character, the dreamer's boyfriend, has also been cancelled in the alternative narrative.

Another interesting difference is the following. The alternative narrative contains a powerful condensation, to use a Freudian term, of two distinct real characters into only one character; in fact, the man is a monster, representing both the father and the dark man. In the report these two characters are replaced by a spider. The initial condensation has been modified assuming the aspect of an archetypical metaphor.

3. Conclusions

The dream building model has been shown to be a very useful and valuable tool for understanding the complex processes of dreams and cognition. Following this research, the model proposes a powerful explanation for why The Storytelling Method of Dream Interpretation (DeCicco, 2007a) can be so useful. The method has been repeatedly shown to be effective and yields, at minimum, a significant meaning for the dreamer 80% of the time (DeCicco, 2009, 2007a; DeCicco & Higgins, 2009; DeCicco, Lyons, Pannier & Wright, 2010). The psychophysiological model proposed in this paper provides a meaningful and comprehensive model that ties together brain activity, associations and metaphors in dreams, the dream experience, the dream report itself, the new narrative produced by The Storytelling Method, and the meaning that is derived with the method. This comprehensive model also proposes multiple feedback loops which explain the on-going associations among all of these factors. Furthermore, when applying the model to a dream and interpretation via The Storytelling Method, the explanatory power of the model becomes apparent. The psychophysiological model builds on previous research (Barcaro, et al., 2005) and adds a new model which appears to be thorough and all-encompassing in terms of the complex process of dream production and dream interpretation. Further inquiry and applications of the model for The Storytelling Method is certainly warranted for future research especially with EEG measures with both dream content and dream interpretaion.

Note

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