

The structural approach to the empirical investigation of the meaning of dreams - Findings from the research project „Structural Dream Analysis“

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Summary. The structural approach to the investigation of the meaning of dreams is described, which is also the foundation for the research method Structural Dream Analysis (SDA). The method focuses especially on the relationship between the dream ego and other figures in the dream and the extent of activity of the dream ego. Research with this approach has produced new insights on the connections of dream content with the personality of the dreamer. Five major dream patterns were identified which accounted for the majority of the dreams. These patterns are closely correlated with the psychological problems of the dreamers and their development in the course of psychotherapy. Additionally, typical changes in the dream series' patterns could be identified which corresponded with therapeutic change. The usability of the structural approach is exemplified with the famous specimen case of psychoanalysis, Amalia X, and its 96 dreams. The implications for different psychoanalytic theories of dreaming and dream interpretation are discussed as well as implications for the continuity hypothesis.

Keywords: Dreams in psychotherapy, empirical dream research, psychoanalytic dream theories, typical dream patterns, psychotherapy process

1. Introduction

In empirical dream research, a number of research approaches have been developed to investigate the meaning of dreams. The term "meaning of the dream" refers to the idea, not only in psychoanalytic theories of dreaming, that dreams convey additional (unconscious) information about important topics for the person which are not accessible to waking life consciousness. Often these methods which investigate the meaning of dreams involve the coding of content elements in the dreams, e.g. the occurrence of certain symbols. In this paper we would like to argue for a different approach to understanding and analyzing the meaning of dreams which we call structural. We assume that the meaning of dreams is not so much transmitted by the elements or symbols in the dream but more by the relationship between elements in the dream, especially the relationship of the dream ego to other figures and elements in the dream and the extent of agency of the dream ego. This takes up an idea first formulated by C. G. Jung, who named this approach the interpretation on the subjective level. Structural Dream Analysis was developed as a formalized research method, which applies this approach to the interpretation of dream series from analytical psychotherapies. Analytical psychotherapies, in which usually dreams are interpreted, provide excellent material for a systematic analysis of the meaning

of dreams, since here dreams are systematically documented, and additionally a lot of information on the person and his/her psychological life is available.

1.1. Jung's view of the dream

Jung (1971) sees the psyche as a self-regulating system and the dream as a spontaneously produced picture of the current situation of the psyche in the form of symbols. Jung differentiates between a "subjective" level and an "objective" level to the interpretation of dreams. In the first perspective, the figures and elements of the dream are interpreted as representing parts or qualities of the dreamer's personality (especially conflictual parts, i.e. complexes), whereas in the objective perspective, they are seen as representing persons or entities existing in reality. In dreams, the unconscious psyche attempts to support ego consciousness and foster a process of personality integration by pointing to parts of the psyche not yet integrated into the whole of personality - these parts can appear personified in the dream. Through dreams, the unconscious, because it contains a more holistic knowledge about the development and integration of personality, brings new information to consciousness, which can then be integrated if a conscious understanding of the information is possible. So the term "meaning of the dream" in the context of Jungian psychology is identical with this new information brought to consciousness by way of the symbols and imagery of the dream, since it aims at correcting the attitude of consciousness; this is also the function of dreaming, as it is part of the self-regulating capacity of the psyche. To bring this about is the aim of dream interpretation in psychotherapy. So Jungian dream interpretation focuses on the relationship of the dream ego (i.e. the figure in the dream which experiences the dreamer as "myself", psychoanalytically representing ego consciousness) to the other figures in the dream, which gives an indication through the imagery of the capability of the ego to cope

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with emotions, impulses and complexes (being represented in this symbolic form in the dream), and the strength of ego consciousness. Since the information in dreams comes in the form of symbols and images, it needs translation to be understood by the conscious ego.

In the context of the studies presented here “meaning of the dream” is more or less equivalent with the Jungian understanding pointed out above; more precisely, it is understood that the meaning is conveyed especially by patterns of relationship between dream ego and other figures in the dream and the agency of the dream ego. This parallels the viewpoint which is called subjective level and it also refers to the idea that the dream gives a picture of the current situation of the psyche including also unconscious content. This is different from theories of dreaming in other psychoanalytic schools, as for example in the Freudian school where the dream is understood to convey information about the transference countertransference relationship.

1.2. Empirical dream research

It seems that empirical dream research, though not having any intention of testing Jungian theory, has become quite supportive of Jung's theory of the dream. Hall and Van de Castle (1966), who developed a coding system for the content of dreams, argued that it is possible to draw a personality profile based only on the dreams of a person. Furthermore, there is substantial continuity in the themes in dreams of a person over a long period of time (Levin, 1990). And Cartwright (1977) found that the themes in the dreams change when a person goes through psychotherapy. In a study on the dreams of persons with multiple personality disorder, Barrett (1996) was able to demonstrate that the split-off parts of their personalities appeared personified in their dreams. Greenberg and Pearlman (1978) compared the content of dreams of patients currently in psychoanalysis with the protocols of their therapy sessions that coincided with the time of the dream and found a strong connection between the themes in the dreams and their psychotherapy. The dream could be read as a report about the current conflictual themes in the waking life of the dreamer. Palombo (1982) could show that clients reprocess contents from their last analytical session in their following dreams and Popp, Luborsky and Crits-Christoph (1990) found that both therapy narratives and dreams were structured using the same unconscious relationship patterns (for a more detailed discussion see Roesler 2018a). According to Barrett & McNamara (2007), the results of empirical dream research can be summarized in the following way: in the dream, the brain is in a mode where it does not have to process new input but can use larger capacities for working on problems and finding creative solutions. The dream especially focuses on experiences in waking life that have emotional meaning for the dreamer. The dreaming mind can find solutions for problems more readily compared to waking consciousness because it is able to connect different areas and functions of the brain.

1.3. Coding dream content

The usual research approaches investigating the meaning of dream content make use of coding systems, e.g. the well-known coding system of Hall and Van de Castle (1966). Also in psychoanalytic dream research, elaborated coding systems for dream content have been developed and used

in studies investigating the process of psychotherapy (e.g. Moser & von Zeppelin, 1991). These coding systems, which count the appearance of certain elements and symbols in dreams, from our point of view, are not able to identify the meaning of dreams, since meaning is the result of interpretation. An example is the famous system built on content analysis of over 50,000 dreams by Hall & Nordby (1972). Typical dreams reported in this classification involved aggression, predatory animals, flying, falling, being persecuted by hostile strangers, landscapes, dreams of misfortune, sex, getting married and having children, taking examinations or undergoing some similar ordeals, traveling, swimming or being in the water, watching fires, and being confined in an underground place. The problem with this kind of classification, from our point of view, is that these typical dream motifs describe very different entities, from objects and beings to action patterns and story structures. There is no theoretical model behind such a classification which could connect the dream motifs with a meaning for the dreamer. This was already criticized by Stevens (1995), who gives the following example: “Simple content analyses reveal that agonistic dreams are more common among males of all ages and hedonic dreams more common among females, but both types of dreams occur in both sexes. A more significant variable than gender in determining the relative incidence of such dreams is the kind of family the individual grew up in” (p. 249).

2. The research project „Structural Dream Analysis“

There is a long tradition of clinical research on dreams in psychoanalysis (for an overview see Fonagy et al. 2012). Also in psychoanalytic dream research, elaborated coding systems for dream content have been developed and used in studies investigating the process of psychotherapy (e.g. Moser & von Zeppelin, 1991). In psychoanalytic research on dreams, there is often the problem that basic assumptions about the function of dreams are taken for granted (Fischmann, Leuzinger-Bohleber & Kächele, 2012). For example, the Moser & von Zeppelin coding system is based on the assumption that the function of dreaming is to protect sleep and so investigates the changing positions of elements in the dream which ‘evidences’ this function. But as it is, this coding system is not able to falsify any Freudian assumptions. In our method Structural Dream Analysis (hereafter, SDA) (Roesler, 2018b), we attempted to minimize the inclusion of any theoretical psychodynamic assumptions about the dream. The method takes the basic idea from Jung, as pointed out above, that dreams can be interpreted on the subjective level, which means that all elements of the dream symbolize parts of the personality of the dreamer. In SDA the assumption is that the meaning of a dream consists not so much in it containing certain symbols or elements but more in the relationship between the elements and in the course of action which the dream takes, which we consider to be a structuralist point of view in the tradition of French structuralism, as it can be found e.g. in Levi-Strauss (1976) and in Vladimir Propp's (1975) method of analysing fairy tales (see below; not to be mistaken with Freud's use of the term structure in the sense of a structural theory of personality). This approach is more interested in identifying patterns than in coding elements. It is especially focused on patterns of relationship of the dream ego to other figures

and elements in the dream, which is again the idea taken from Jung's interpretation on the subjective level. It also focuses on the extent of agency of the dream ego. In this sense the term structure refers to how figures or elements are positioned in the dream; e.g. the question is whether the dream ego is in an active or passive position regarding the actions occurring in the dream, whether the dream ego is actively authoring what is happening in the dream or is subjected to other figures' actions.

SDA is a qualitative, interpretive research method that attempts to formalize the process of interpretation of the dream in a way that the conclusions are independent from the interpreter. In our studies, a reliability test found an interpreter agreement for the results coming from the same case of $k = .70 - .82$. SDA sees the dream as a narrative. In narratology, a narrative is defined as a development from a starting point, which often is a problem that needs repair or solution. The narrative goes through ups and downs leading to the solution of the problem or a valued endpoint to the story (Gülich & Quasthoff, 1985). Similarly, the dream is a short story about how the protagonist, in most cases the dream ego, processes a problem. SDA thus makes use of analytic tools developed in narratology. Two earlier methods of narrative analysis were incorporated: a) Vladimir Propp's (1975) structuralist method of investigating the structure of fairy tales. Each fairytale is divided into its story parts (e.g. "The King is ill and needs healing"; "The hero fights the Dragon") and each part receives an abstract symbol, e.g. a letter or number. As a result each fairytale can be written as an abstract formula of symbols and then different fairytales can be compared regarding their structure. b) Boothe's (2002) narratological method JAKOB used in analytical psychotherapies for the analysis of patient narratives and their development over the course of therapy. This method focuses on the role the narrator takes in the narrative in terms of activity vs. passivity and his/her relation to other protagonists in the narrative, as well as on different episodic models which describe the course the narrative takes. The meaning of symbols in the dreams we investigated was analysed by a systematized form of amplification. In psychotherapy, the analyst assumes that the series of dreams presented by the analysand follows an inner structure of meaning. SDA aims at identifying this inner structure of meaning from the series of dreams alone without referring to additional information about the dreamer, their psychodynamics or the course of psychotherapy. The meaning conveyed by the dream is analysed in a systematic series of interpretive steps for which a formalized manual is available (for more details see Roesler, 2018b):

1. Dividing the narrative into segments
2. Identification of episodic models
3. Fate of the protagonist: the dream narratives are analyzed from the perspective of the position of the ego/dream ego agency: is the ego actively involved or a passive observer, is marginalized etc.?
4. Structural analysis (following Propp)
5. Including the above steps into a framework of the whole dream series
6. Amplification of central symbols of the dream series: symbols that appear in several dreams or have a central position to the dream series are analyzed using symbol dictionaries and translated into a hypothesis of their psychological meaning

7. Amplifications are included into the framework of the dream series
8. Formulation of a hypothesis of the meaning of the whole dream series in psychological language

The interpreters, who have no information about the dreamer, are given a series of 10 to 20 dreams covering the whole course of the psychotherapy and which ideally mark the core points and topics of it. The dreams are provided by practising analysts who also write a case report about the psychopathology and psychodynamics of the patient involved as well as about the development of core conflicts and themes in the course of the therapy. Only when the dream series are completely analyzed using SDA are the results compared to the reports by the therapists. SDA allows for systematic and objective analysis of the meaning of dreams produced by patients in psychotherapies. The following questions are investigated: Are generalized structures to be found in the development of dreams in successful psychotherapies compared to failed ones? Are there connections between type of psychopathology, e.g. depression, and the symbols and structures in the dreams?

The samples that were investigated with the method include:

1. A study with 15 thoroughly investigated cases from Jungian psychotherapies with 206 dreams.
2. In the Japanese study reported below more than 100 university students were investigated with an average of 10 dreams per case.
3. The method was tested with famous cases from the history of psychoanalysis/psychoanalytic psychotherapy research, namely the specimen case "Amalia X" (see below).
4. A sample of 150 case reports from the archives of the Jung Institute Stuttgart/Germany with varying numbers of dreams per case.

3. General findings

A major finding is that a high percentage of all dreams from all cases can be categorized by a very limited number of structural patterns. The most **general pattern** can be described as: **the ego is confronted with a requirement, has to cope with a challenge, has to fulfil a plan or task**. This general pattern can be differentiated into five more specific patterns regarding the extent of agency of the dream ego (for details see Roesler, 2018c):

Whereas in Pattern 1 there is no ego present at all, in Patterns 2 and 3 the dream ego is present but under pressure from other forces in the dream and the initiative is not with the ego but with others. The ego is subjected to their activity, power and control. In Patterns 4 and 5 the ego has taken over the initiative and attempts to follow a personal plan but may be confronted with difficulties. In Pattern 5 this activity focuses on a social relationship.

Pattern 1: No dream ego present

In the dream there is no dream ego present, the dreamer just observes a scene as if watching a movie and does not actively take part in the dream. In some cases the dream ego flies above and looks down on a scene or happenings in the dream.

Pattern 2: The dream ego is threatened

In dreams of this kind the dream ego is threatened, e.g. attacked or injured and usually tries to escape or protect itself against the threatening figures. In b) to d) below, the dream ego very often reacts with panic and either feels powerless or tries to escape from the threat. Often this results in the dream ego being chased by the threatening figures. The dreams in this pattern can be differentiated depending on the severity of the threat.

- a. the dream ego is damaged, e.g. severely wounded, or even killed. In some cases the killing has already happened and the dream ego is found as a dead body.
- b. the threat to the dream ego comes from a force in nature, e.g. a natural disaster, earthquake, fire, flooding, storm etc.
- c. the dream ego is threatened by (dangerous) animals.
- d. the dream ego is threatened by human beings, e.g. criminals, murderers or "evil people", or human-like figures, e.g. ghosts, shadows etc.

Pattern 3: The dream ego is confronted with a performance requirement

The dream ego is confronted with a performance requirement, which is set by another figure or agency in the dream. The dream ego is confronted with a task which it has to fulfil, or is required to find something or to give something to another person in the dream so that they can fulfil a task etc. The most common form of this pattern is the examination dream. An important part of this pattern is that the initiative is not with the dream ego but with other figures confronting the dream ego with a requirement. The dream ego is subjected to their control and power.

- a. Examination in a school or university setting.
- b. The dream ego is subject to an inspection by an official person, e.g. a ticket inspection on the train where the right of the dream ego is questioned.
- c. the dream ego has the task to find something (which was lost before), get something, produce something etc.

A very typical pattern in these kind of dreams is that the dream ego does not feel capable of performing the task, does not possess the right tools or capabilities, or has failed to bring these devices, has lost them on the way etc. For example, the dream ego is not prepared for the examination, or arrives too late for it.

Pattern 4: Mobility dream

The dream ego is moving towards a specified or unclear destination, e.g. traveling and making use of different forms of transportation like bicycle, car, bus, train, airplane, ship etc. An interesting differentiation is the question whether these transportation devices are public or individual. Again this form of dream can be differentiated depending on the extent of the dream ego's agency which shows in the extent to which the dream ego determines its own movement.

- a. disorientation: the dream ego has no idea where to go, even where it is and there are no signs of direction etc.

- b. the dream ego is locked up in a closed space, imprisoned etc., and is looking for a way to get out.
- c. the dream ego wants to move, travel etc. but has no means to do so, e.g. it misses the train
- d. the dream ego attempts to move and has some means of transportation but cannot control the movement, e.g. it cannot steer a car
- e. the dream ego is moving but the way is blocked or the means of transport breaks down or crashes and movement cannot be continued
- f. the dream ego is moving, making use of some means of transportation but it is going the wrong way, is in the wrong train or bus, or is not authorized to use it (e.g. has no ticket) and therefore cannot continue the journey
- g. in the positive form, the dream ego succeeds in moving towards and reaching the desired destination.

Pattern 5: Social interaction dream

The dream ego is occupied with making contact or communicating with another person or figure in the dream. The dream ego wants to get in contact with another person, or is in communication and attempts to communicate something to the other person, or is more generally occupied with creating a desired contact with the other person which can include sexual contact. This dream pattern can be differentiated depending on the dream ego's activity and how successful it is in reaching its desired contact.

- a) the dream ego wants to get into contact but is ignored by others
- b) the dream ego is criticized, devalued or made ridiculous by others and feels shame
- c) the dream ego is successful in creating the desired contact
- d) a special case: the dream ego is aggressive towards others (even kills others) which expresses the will of the dream ego to be separated and autonomous.

There is a strong correlation between dream content and repetitive patterns in dream series on one side and the dreamer's personality structure and psychological problems on the other. Additionally, changes in the course of psychotherapy are paralleled by a transformation in the dream patterns of the patient. The five patterns detected can be interpreted psychologically as an expression of the capacity of the dreamer's ego, on different levels, to regulate or cope with emotions, motivations and complexes. The extent of agency of the dream ego is equivalent to what psychoanalysis calls ego strength or maturity of the personality as well as the degree of integration of ego and other parts of the psyche into the whole of the personality and the capacity of ego functioning.

A general finding is that in those cases where the psychotherapeutic intervention was successful, such that there was an improvement in symptoms, psychological well-being, regulation of emotion and, from a psychoanalytic point of view, a gain in psychological structure and ego strength, we found a typical pattern of transformation in the structure of the dreams. Typically the first half of the psychotherapeutic process was dominated by a repetitive pattern in the dreams, which was connected with the psychological problems of the dreamer, in the sense as described above. Generally in the middle of the dream series there appears

a dream or dream symbol which marks a change in the pattern (the typicality of these transformative dreams or dream motifs which initiate a change in the original pattern is subject of an ongoing study the results of which will be presented in a future publication). The second half of the dream series is then typically characterized by a change in the repetitive pattern:

In Pattern 2 (the dream ego is threatened), the dream ego changes its reaction to the threat. Instead of escaping, it confronts the threatening figures, fights actively, finds constructive strategies to cope with the threat and towards the end of the dream series succeeds in over-coming the threat (e.g. the dream ego in the first half of the series is threatened by water in the form of giant waves, flooding etc. and usually drowns in the flood; in the second half of the series, however, the dream ego more and more succeeds in moving to a safe place on dry land). Furthermore, a transformative pattern emerges in which the dream ego realizes that the seemingly threatening figures are not as dangerous and even makes friends with these figures. The threatening figures tend to change from natural disasters or threatening wild animals to less dangerous animals and then into human beings. A similar pattern of transformation in the series of dreams can be found for those cases which are dominated by Patterns 3 and 4.

In Pattern 3 (performance requirement), the first half of the series is typically dominated by the dream ego failing to fulfil the required task. This is seen in cases where the dream ego repeatedly is confronted with an examination, is not prepared, is too late or even forgets about the examination, thereby fails and escapes etc. Change in this pattern is characterized typically by the disappearance of examination dreams in the second half of the series.

Pattern 4 (mobility): typically in the first half of the series the dream ego is not able to reach the desired aim, is on the wrong bus or train or has no ticket etc., the road is blocked, or the dream ego is not capable of controlling the car. In some cases the dream ego is even walled-in and not able to escape. In the second half of the series this typically changes into the dream ego succeeding in reaching the desired aim and controlling the means of transportation. Pattern 5 (social interaction): the cases dominated by this pattern usually are characterized by failed attempts (or passivity) of the dream ego to get into a desired contact or communication with others in the first half of the series - the dream ego is ignored by others, others forget about the ego's birthday, or the dream ego is even criticized and devalued by others. Towards the end of the dream series, the dream ego is more and more capable of creating satisfying interactions with others, including sexual encounters, or it experiences care and support from others. In those cases with successful therapeutic change, the second half of their dream series is dominated more and more by Pattern 5, that is, the dream ego becomes occupied with creating a desired social interaction. And this occurs after the dream ego has succeeded in overcoming a repetitive negative pattern of being threatened or having failed mobility or negative examination dreams.

These transformative patterns were only found in cases where the therapists reported improvement on the symptom level as well as positive changes in personality structure. By contrast, in therapies considered by the therapist to have failed or which are still ongoing also repetitive patterns can be found, but with no change in the repetitive pattern in the

way described above. In these failed or ongoing cases we still find repetitive patterns, which picture the central complex or unconscious problem of the dreamer, but these patterns continue over the whole course of the dream series and there is no change to patterns on a higher level, as can be found in successful cases.

As a result of our findings we would form the following hypothesis: the relationship between the dream ego and threatening figures and the reaction of the dream ego to the threat is imaging the relationship between actual ego strength and unintegrated or conflicted parts of the psyche, unconscious and repressed needs, motivations and complexes. The special form the threatening figure takes in the dream can be seen as symbolizing the psychological problem, the complex or repressed impulse with which the dreamer is struggling, especially if the dream pattern is repetitive. Patients whose dreams are shaped mainly by the threat - escape pattern usually struggle with structural problems around an unstable ego and personality with unclear boundaries, whereas patients with dreams of mobility and interpersonal relationships seem to have more integrated personalities and higher ego strength and are preoccupied with more neurotic and interpersonal problems. We would also hypothesize that there is a typical change in dream patterns over the course of successful therapies. Typically the first half of the psychotherapeutic process was dominated by a repetitive pattern in the dreams, which was connected with the psychological problems of the dreamer. Generally in the middle of the dream series there appears a dream or dream symbol which marks a change in the pattern. The second half of the dream series is then typically characterized by a change in the repetitive pattern: Dreams move from Patterns 1, 2 and 3 in the first half of a successful therapy process, where there are failed attempts by the dream ego to move and create relationships in a desirable way, to Patterns 4 and 5 where successful activities and control by the dream ego are seen.

These transformative patterns in the dream series are interpreted from a psychodynamic perspective and are seen as speaking to the fact that an initially weak ego structure which fails to regulate and integrate threatening emotions, impulses and complexes, gains in ego strength over the course of the therapy and more and more succeeds in coping with initially suppressed or split off parts of the psyche and integrating these into constructive interactions with oth-

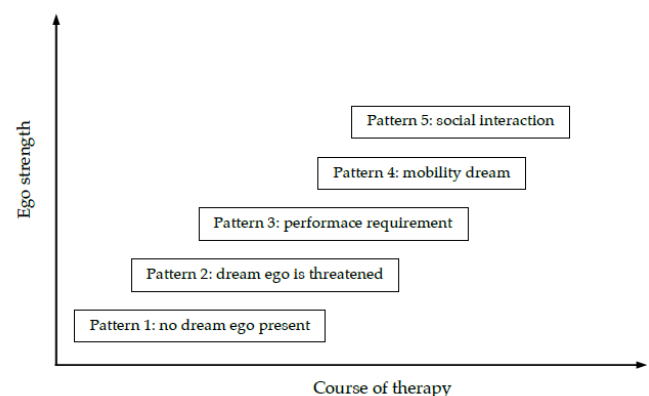


Figure 1. Changes in dream patterns over the course of therapy in connection with improvements in ego strength

ers (see also fig. 1). As a result of such gains in ego strength, the dream ego is capable more and more to execute will-power, conduct its plans, reach aims and express its needs in social interactions.

This also supports the hypothesis that dreams can be understood as an image of the current situation of the dreamer's psyche as a whole, including aspects and processes which are unconscious and not accessible to waking life consciousness.

Our research also produced findings which clearly demonstrate that it makes no sense to code the occurrence of symbols in the sense of a simple content coding. It was found in a number of cases that a dominating symbol which appears repeatedly as part of a repetitive pattern, usually of Pattern 2 (where the dream ego is threatened by this symbol), that this is strongly connected with the psychological situation or problem of the dreamer. Example: In the case of a female dreamer, the dream ego is repeatedly threatened by snakes. In this case, the therapist diagnosed a strong tension in the personality between a very moralistic superego on the one hand and very lively erotic and sexual desires on the other. The snake can clearly be interpreted as a sexual, phallic symbol, which appears threatening to an ego under the pressure of the moralistic superego. But there is clear evidence from the dreams in this study that the meaning of a symbol can be totally different in other cases: in the dreams of a young man the snake repeatedly has the role of a helper. In summary, symbols appearing repeatedly in dream series can often be interpreted as symbolic images for parts of the psyche, its impulses and complexes which are not yet integrated into the whole of personality and which therefore appear threatening to ego integrity. But the symbol has to be interpreted in the context of the personality of the dreamer and his/her course of life.

Sense of self and structure of dreams

Tanaka (2019), in his research on the dreams of Japanese university students, made use of a structural approach to the understanding of the meaning of dreams, as well. He investigated students who sought help in a university counseling center, which applied a Jungian oriented counseling approach. He applied a so-called "Sense of Self Scale" (Konakawa et al., 2018), to first investigate the self-relationship of the participants. Sense of self in this context means a conscious awareness of one's self and the capacity to reflect on one's own self in the context of one's personality as well as in relationship to others. The results of this research, regarding differences between a high sense of self group and a low sense of self group, are summarized here to demonstrate the usefulness of such a structural approach. The participants were divided into these groups by means of a questionnaire measuring sense of self. Dreams reported by the participants were investigated focusing on self-relation in the dream and agency of the dream ego.

Characteristics of dreams of participants classified in the low sense of self group:

- No agency of the dream ego, the dream-ego is not actively coping with problems, in many cases there is not even a problem to cope with.
- Neither the dream ego nor others have any clear will, events in the dream are determined without reason.

- There is no perspective of the dream ego in the sense of a protagonist; shifts of scenery happen without any activity of the dream ego or others ("without knowing why" or "like a mystery"); in some cases the dreamer is not even involved in the dream or has a bird's eye perspective, as if watching a movie.
- There is no mutual relationship between dream ego and others, and the dream-ego does not respond to the others' actions or approaches.
- The dream has no narrative organization (introduction, development, turning point and conclusion).

In contrast, the characteristics of dreams in the high sense of self group:

- Clear agency of the dream ego, it actively deals with situations and at least tries to cope with problems.
- The dream ego is an active protagonist with a focused will, events in the dreams change as a consequence of the dream ego's or other's actions.
- There are mutual relationships between the dream ego and others, even though they may not be friendly. In that case, the dream ego sustains conflicts more persistently than the low sense of self group, but there are also more dreams in which the dream ego is helped by a friendly other.
- The dream has a clear narrative structure which includes introduction, development, turning point and conclusion.

The case Amalia X

Since the findings reported above are based on cases from Jungian psychotherapy or counseling, we attempted to test the usefulness of the structural approach of SDA with a classical Freudian case, the so-called specimen case Amalia X. This is a Freudian psychoanalysis of more than 500 sessions, which was fully documented on video and was subject of a number of empirical investigations (Kächele 2012, Kächele et al. 1999, 2006). The case Amalia X is considered to be the best investigated case in the history of psychotherapy research. This case included 96 dreams which were discussed over the course of therapy. These dreams were subject of a number of studies as well (Levy et al. 2012, Boothe 2018, Kächele, Eberhardt & Leuzinger-Bohleber 1999, Merkle 1987).

The following information on the case is taken from Kächele et al. (2006):

Amalia X came to psychoanalysis because the severe restrictions she felt on her self-esteem had made her vulnerable to depression in the past few years. Her entire life history since puberty, and her social role as a woman, had suffered from the severe strain resulting from her hirsutism. Although it had been possible for her to hide her stigma—the virile growth of hair all over her body—from others, the cosmetic aids she used had not raised her self-esteem or eliminated her extreme social insecurity. Her feeling of being stigmatized and her neurotic symptoms, which had already been manifest before puberty, strengthened each other in a vicious circle; scruples arising from a compulsion neurosis and various symptoms of anxiety neurosis impeded her personal relationships and, most importantly, kept the patient from forming closer heterosexual friendships.

Amalie X is 35 years old when she starts therapy. She is a teacher and lives on her own. Still, she maintains close contact to her family - especially to her mother. She starts therapy because of her persistent depressive mood and her low self-esteem. Besides, she experiences obsessive thoughts and impulses from time to time as well as neurotic respiratory problems. Additionally, she gets erythrophobia (the fear of blushing) in certain situations. The symptoms however do not impair her employability so far. Amalie was born in 1939 in a small town in South Germany. Due to the war and his work as a notary, her father was mostly absent during her childhood. She describes him as emotionally cold and obsessive. Her mother on the other hand was impulsive with a broad interest in culture. Amalie has an older (+2) and a younger (-4) brother. She always felt inferior to them. Amalie describes herself as a sensible child that often played alone and loved to draw. However, she felt like being a compensational partner to her mother for her absent father. At the age of three, Amalie as well as her mother fell ill with tuberculosis. As a result, her mother had to be hospitalized multiple times and Amalie and her brothers lived with her aunt and grandmother for the following years. Amalie describes their parenting as puritanical and religiously strict. Her father only visited on the weekends. During puberty, Amalie developed an idiopathic Hirsutism – a somatic disease characterized by a masculine hairiness on women. In school, Amalie was doing very well. After she got her high school diploma, Amalie went to university to become a high school teacher. However, after few semesters, she abandoned her plans and left university to join a monastery. Due to religious conflicts, she left once more and went back to university. Now however, she could not get the diploma to become a high school teacher but just for middle school. Until her first therapy session, Amalie had had no heterosexual contact.

Kächele et al. (2006) note that Amalie suffers from a disorder of her self-esteem; according to the ICD-10, she fits the criteria of a dysthymia (F34.1).

To measure the success of the therapy and to track the change in symptoms and personality, Amalie completed the Freiburger Persönlichkeitsinventar (FPI) and the Gießen-Test (self- and therapist-assessment) at the beginning of therapy, at the end of therapy and a catamnestic measurement two years after therapy was completed. Results of the FPI show a significant improvement in various scales at the end of therapy. According to the test, after completing therapy, Amalie is less psychosomatically troubled, is happier, has more self-esteem and is more outgoing and extroverted. In the catamnestic measurement, the results improved even more. In the Gießen-Test, all self-reported scales lie within the norm for all three measuring points. The results of the psychometric evaluation support the therapist's impression that the therapy was a success (Kächele et al., 2006).

Application of SDA to the case Amalia X

In the analysis of the 96 dreams of the case the typology of dream patterns described above was used as a coding manual; each dream was coded independently by two raters so that each of the dreams was assigned to one of the

patterns. As it is considered to be a very successful therapy, we hypothesized that we would find a movement from patterns 1, 2 and 3 to patterns 4 and 5 over the course of therapy, as well as a gain in initiative of the dream ego which should result in more successful dream actions. Additionally major symbols, which appear repetitively in the dream series, were analyzed using the amplification method.

Out of 96 dreams, 26 were assigned to pattern 5. Sixteen were assigned to pattern 4, 18 to pattern 3, 18 to pattern 2 and three dreams to the first pattern. Fifteen dreams could not be clearly assigned to one of the patterns and were therefore coded NA. NA rated dreams were excluded from inferential analysis. The interrater reliability between the main rater and the second rater was assessed using the square-weighted Cohen's kappa coefficient, $\kappa = 0.814$, $p < .001$. The two raters agreed in 80% of the dreams on the pattern. The results of the main rater were used for statistical analysis. The first hypothesis predicted an increase in dream patterns from pattern 2 and 3 towards pattern 4 and 5 over the course of Amalie's therapy.

Figure 2 shows the dreams of Amalie X in sequence over the course of her therapy. Time equal 1 marks the first dream "Schwiegermutter's Klavierdiktat" that Amalie reported during the sixth session of therapy. The last dream reported was number 96 "Überfall der Antroposophen" in session 517. The descriptive scatter plot shows an overall association between the dream patterns and their occurrence in time. Statistical analysis supports this impression, the Kendall's rank correlation is significant, $r = .25$, $p = .003$. There is an accumulation of dreams for pattern 2 to 5 apparent. Dream number 48 was reported in session number 247 and therefore marks approximately the middle of therapy. The second half of therapy is dominated by pattern 5.

Our second hypothesis states that the dream ego gains initiative over the series of dreams and is therefore succeeding in the posed quest and overcoming threats. To statistically test the hypothesis, the dreams were divided into two groups: The dreams before dream 48 were assigned to the group "first-half-of-therapy", the following dreams to "second-half-of-therapy". Twelve NA-dreams were excluded from analysis. A Chi-square-test was then used to test for an association between succeeding/failing and the first/second-half-of-therapy. The test was significant with $\chi^2(1, N = 79) = 5.2304$, $p = .022$. Thus, inferential analysis

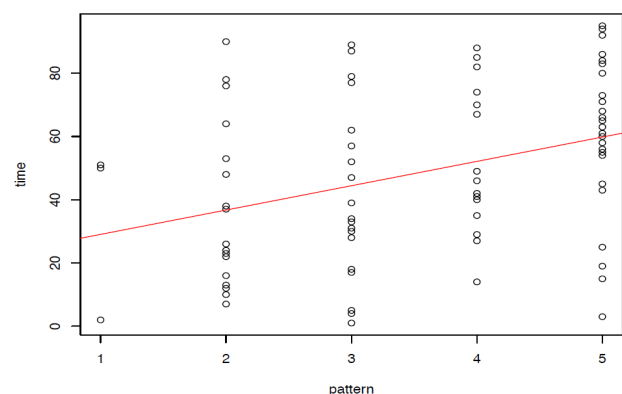


Figure 2. Occurrence of dream patterns over time; scatter plot

suggests that there is an association between failing/succeeding and the nominal score first-half-of-therapy or second-half-of-therapy.

The dream patterns and the results of the amplification draw the following picture of Amalie's psychodynamics and pathology over the course of psychotherapy: Amalie's dream series starts off in pattern 2 and 3. Only three dreams are pattern 1 which suggests that Amalie has already a relatively stable, well integrated personality. According to SDA, the dreams of pattern 2 and 3 reflect a somewhat weak ego structure that is struggling to integrate split-off emotions, impulses and complexes. The amplification of the symbols "mother" and "hair" suggest that Amalie is in conflict with her femininity and sexuality and struggles with low self-esteem. The objective level of interpretation of the hair suggests that Amalie somehow suffers from a physical aberration of her body hair, as the dream ego itself notes that she has hair in unusual and weird places on her body. However, in the second half of therapy, Amalie seems to be able to connect with her sexuality and femininity. She gains in ego structure and self-esteem and becomes autonomous from her mother. The accumulation of pattern 5 shows that Amalie is now occupied with social interactions. This seems to be the major theme of her personality development in the entire second half of therapy. The interpretation on both objective and subjective level goes parallel in the case of the hair: Due to a physical aberration (objective level), Amalie was unable to develop and integrate a confident sexuality into her self-image (subjective level). The dreams mirror the process of acceptance which goes hand in hand with the integration of her split-off parts of the psyche which involve her sexuality, femininity, and self-confidence.

4. Synopsis

The patterns in the series of dreams reflect the transformation of Amalie's personality structure and ego strength, as it is reported by Kächele et al. (2006). In this section we will compare our results with earlier studies on the case as well as on psychoanalytic dream research in general. Our findings regarding the patterns that dominated the first half of therapy parallel findings by Albani et al. (2003) using the Core Conflictual Relationship Theme method (CCRT): the most frequent categories across all phases of therapy were:

Wish towards the object Others should be attentive to me
Wish towards the self I want to be self-determined
Assumed response of the object Others are unreliable
Assumed response of the self I am dissatisfied, scared

Amalia's wish for change was expressed in her desire for autonomy, overcoming her experience of herself as dependent and weak, as unable to set limits and as dissatisfied.

Kächele et al. (2006) note that in earlier studies two central hypotheses about changes in overall self-esteem were confirmed: positive self-esteem increased significantly during the course of treatment, although the trend did not set in right at the start of treatment but only after wide fluctuations over the first 100 sessions; also, negative self-esteem showed a significant and continuous decrease from the beginning of treatment. The results indicated that the amount of total suffering throughout the treatment could be described as a monotonic and statistically significant negative trend, and that 'helplessness in dealing with suffering' decreased significantly over the course of treatment. They also

identified a steady trend from negative dream emotions at the beginning to positive dreaming colouration towards the end of the analysis as well as a steady systematic change in the problem-solving activity of the dreamer escalating as the analysis proceeds.

The study by Kächele, Eberhardt, and Leuzinger-Bohleber (1999) observed systematic changes over the dream series of Amalie X. They used a modified version of Clippinger's theory of cognitive processes, to explore the development of the psychological functioning of Amalie over her series of dreams. Clippinger's theory maps cognitive processes as various, separate modules that can conflict, inhibit, modify or complete each other. Kächele et al. (1999) now observed the changes in the different cognitive modules over the course of therapy. For example, they found that the later the session in treatment occurred, the more "... of the text of the dreams was attended to and worked over cognitively." (p. 8). A separate assessment of the manifest dream structure was done by Merkle (1987). Merkle systematically observed the changes in expressed relationships, dream atmosphere and problem solving in Amalie's dreams. Comparing the dreams of the beginning and end of therapy, Amalie expressed better relationships and the relationships were more friendly and tender than the ones in the earlier dreams. However, the dreams were seldom neutral and still included conflictual relations.

The German study on long-term treatment of chronic depression (LAC-Studie), in which dreams were investigated, found that in successful psychoanalytic therapies there are positive changes of the dream atmosphere, more successful problem-solving in the dreams, an extension of the spectrum of affects experienced in the dream; the dream ego changes from a perspective of an observer to active involvement, and there are more helping figures in the dream narrative (Fischmann & Leuzinger-Bohleber, 2018).

5. Discussion

The studies using a structural approach to the understanding of dreams confirm the assumption that dreams mirror the personality and psychological problems as well as the development of the person over the course of psychotherapy. The developing ego strength of the client is reflected in the scope of action that the dream ego is able to initiate in relation to other figures, as is documented by the dream patterns described by SDA. Thus, the information about the personality structure is not just shown in static symbols and images but rather in patterns of the relationships between the dream ego and other figures in the dream. Also, dream patterns change accordingly to the development the patient and his/her inner world takes over the course of therapy. These insights are paralleled by other findings from recent empirical dream research. Sándor, Szakadát & Bódizs (2016) found that the presence and activity of the dream ego in the dreams is strongly correlated with the extent of effective coping and emotion regulation in the waking life of the dreamer. Ellis (2016) found typical changes in the dreams of patients with posttraumatic stress disorder after they had received treatment: "Dream ego actions moved forward on a continuum from freeze to flight to fight as dreamers began to find their voices, seek help and/or take action" (p. 185).

Insofar as the extent of ego functioning and the psychological problems of the dreamers are mirrored in the structure of the dreams, these findings support the continuity hypothesis (Domhoff 2017). As Jung hypothesized in his

first theory on the function of dreaming, the dream is a picture of the current situation of the psyche, with unconscious viewpoints added. The Jungian view of dreams could also provide a synthesis for the debate around continuity versus discontinuity of dream content and waking life experience. As Hobson and Schredl (2011) in their discussion of the continuity hypothesis point out, dreams actually contain elements of waking life on a thematic level but this does not explain the occurrence of elements in dreams which dreamers have never experienced in their waking life. As they say, "This raises the intriguing question: If dreaming is not entirely derived from waking experience, then just what is the source of the anomalous content and what is its function?" (p. 3). Hoss (2011) in his commentary on the debate, argues, following Jung, that the distortions of waking content are not misrepresentations but are rather the "unconscious aspect" of the waking event expressed in the dream not as a rational thought but as a symbolic image.

Based on the findings reported above, it seems that there is no real evidence for a compensating activity in dreams, as Jung claims. There is more evidence for Jung's first theory, that the dream presents a more holistic picture of the total situation of the psyche, including unconscious aspects. In this sense, the function of dreams could be called not so much compensating, but more of completing the picture by adding aspects that are not accessible for waking life consciousness.

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