

The third year for IJoDR

Michael Schredl¹ & Daniel Erlacher²

¹Central Institute of Mental Health, Mannheim, Germany

²University of Heidelberg, Germany

The *International Journal of Dream Research* is reaching its third year. The two issues of 2009 included 13 original papers and one invited essay. These articles covered a large variety of topics like lucid dreaming, dream recall, dream content, nightmares, dreams and psychopathology, and sleep quality. Submissions from all over the world including Canada, the United States of America, the United Kingdom, the United Arab Emirates, Switzerland, Austria, and Germany clearly indicate that our journal is truly international.

Our invitations (sent out to many researchers in the field) to comment on the essay "The neurobiology of consciousness: Lucid dreaming wakes up" by J. Allan Hobson published in the last issue of *IJoDR* (Vol. 2, Issue 2, pp. 41-44) yielded a good resonance. Fourteen researchers or research groups sent in commentaries on the fascinating topic of how lucid dream research can contribute to consciousness research in general. The commentaries were arranged in alphabetical order.

Among other topics, Andrew Brylowski excellently summarizes the lucid dream research done in the 1980s to complement the overview given by Allan Hobson. The commentary by Daniel Erlacher, a sports scientist, and Heather Chapin highlights the use of lucid dreaming to enhance daytime performance in athletes. Jayne Gackenbach, a well-known lucid dream researcher, stresses the importance to study the psychological aspects of lucid dreaming. The usage of lucid dreaming in the treatment of nightmares and posttraumatic stress disorder is elaborated by Josefin Gavie and Antti Revonsuo. Brigitte Holzinger raises the issue of a clear definition of the term lucid dreaming, i.e., whether the knowledge that one is dreaming is sufficient. Ahmed Karim discusses how the rapid development of measurement and stimulation techniques will allow for novel and exciting experiments in lucid dream research. The main topic of Don Kuiken's commentary is what forms of consciousness (primary and secondary) can be found in normal and lucid dreams. Stephen LaBerge, a pioneer in lucid dream research, indicates that how lucid dreams are conceptualized is important for future research; he disagrees with the concept of lucid dreaming as a hybrid or dissociated state. Lynne Mason and David Orme-Johnson discuss a special form of consciousness (witnessing/transcendental) during dreaming and deep sleep and, thus, also underline the importance of having clear defined concepts of the variety of states of consciousness which can be experienced during sleep. Sérgio Mota-Rolim, Daniel Erlacher, Adriano Tort, John Araujo and Sidarta Ribeiro report findings that the subjective experience of lucid dreaming is related to different areas of brain activity. Valdas Noreika, Jennifer Windt, Bigna Lenggenhager, and Ahmed Karim propose a classification of lucid dream experiences and also point out the

fascinating options of non-invasive brain stimulation applied to a sleeping person. Michael Schredl highlights the importance of understanding phenomenological differences and similarities of lucid dreaming to specific waking states and/or normal dreaming and in differentiating between their respective associated brain activation patterns. Having studied lucid dreamers in a MRI scanner, Victor Spoomaker, Michael Czisch, and Martin Dresler also point out that the phenomenological aspects and the underlying neuronal networks should be measured as accurately and validly as possible. In the last commentary, Ursula Voss outlines the importance of combining the first person perspective (introspection) with third person approaches (measurement techniques like EEG or fMRI).

Overall, we have the impression that Allan Hobson's paper kicked off a fruitful discussion about the basics and the future of lucid dream research. Every researcher is invited to submit his or her ideas on that topic so we can include them in one of the next issues of *IJoDR*.

In addition to the lively discussion of Allan Hobson's article, the new issue includes six original papers covering topics like color in dreams, déjà vu experiences, dream content and romantic relationships, methodology of dream content analysis, dream content and procedural memory, and sport dreams in athletes. We also started a new section of book reviews, not only focusing on recently published books, but also on interesting and sometimes historical books that include original ideas, data, or methodological approaches that are still relevant to modern dream research.

The continuity hypothesis in its general form claims that waking-life issues are reflected directly within dreams (Schredl, 2003). A very interesting topic rarely studied is the relationship of sexual dream imagery and waking life. A recently published study (Schredl, Desch, Röming, & Spachmann, 2009) showed that the amount of sexual imagery during the day was related to the frequency of sexual dreams, whereas the actual experience was not. Jessica Clarke, Teresa L. DeCicco, and Geoff Navara showed in their study that dreams of infidelity are related to day-time jealousy. Their Storytelling Method of Dream Interpretation is useful for linking the interpretation of sex dreams to relevant waking day romantic relationship issues.

Déjà vu experiences are defined by the impression of reliving a previous experience. Most often people do attribute this to a previous dream experience and, thus, should be called déjà rêve. Arthur Funkhouser and Michael Schredl's paper clearly indicate that déjà rêve experiences were reported quite often and their frequency is linked to dream recall frequency and personality dimensions like thin boundaries and absorption. More research is needed to understand how these phenomena can be explained in physiological

and psychological terms.

Because dream content analysis is one of the most often used method in dream research (e.g., Hall & Van de Castle, 1966), it seems important to stimulate the field to investigate the strengths and weaknesses of this approach. In his comprehensive review, Michael Schredl points out what pitfalls should be avoided using this methodology and what kind of research is necessary to strengthen the scientific credibility of dream content analysis. We plan to include "educational" papers of this kind in the future because we think that using a sound methodology that fulfils the common criteria of science is very advantageous for our field.

Sleep-dependent memory consolidation is a rapidly growing field getting much attention because of its robust and interesting findings. Jan Born, head of an active research group reviving the paradigms developed in the 1960s and 1970s and combining these strategies with up-to-date memory research and endocrinology, recently was awarded with the "Leibniz Preis" honoring his efforts in pursuing this branch of research. Although a pilot study carried out by Joseph De Koninck and his group (1996) indicated that dream content might be directly related to memory consolidation, the study of Michael Schredl and Daniel Erlacher did not confirm this finding. Nevertheless, global dream characteristics like emotionality might be linked to differences in the performance on a procedural memory task (mirror tracing) between the evening training session and the morning recall session. We are confident that the question of how dreaming is related to memory consolidation will be studied intensively in the future.

There is still an ongoing discussion whether people dream in color or in black-and-white, at least sometimes (Schredl, Fuchedzhieva, Hämig, & Schindele, 2008; Schwitzgebel, 2003). Robert Hoss analyzed large samples of dream reports with respect to how often different colors were explicitly mentioned by the dreamer. His conclusions that spontaneously reported dream colors do not reflect the normal waking visual experience nor personal preferences, but rather can be associated with neurological mechanisms involved in the perception of color as well as psychological factors including the human emotional response to color, are very intriguing and will stimulate the research in this specific field.

The effect of waking-life experiences on dream content has been demonstrated in different areas, for example, the amount of driving a car during the day was positively correlated with the frequency of driving dreams (Schredl & Hofmann, 2003). Daniel Erlacher and Michael Schredl were able to demonstrate that almost all athletes dream about sports and that the most influential variables affecting sport dream frequency are dream recall in general, the amount of sport practice per week and the number of competitions per year. These findings indicate that the time spent with the activity and the emotional valence associated with this activity affect the probability of incorporating a waking-life experience into subsequent dreams.

In his review of the dissertation of Wilhelm Weygandt that was supervised by the well-known physiologist and psychologist Wilhelm Wundt, Michael Schredl points out that many interesting topics were studied at that time (late 19th century) even if the researchers did not have the possibilities we know have (sleep laboratory, polysomnography, etc.). Weygandt, for example, reported very interesting dreams demonstrating how external stimuli affect dream content.

We want to encourage researchers all over the world to send us reviews, not only of recently published books, but also of books or other publications that include interesting ideas, data, or unusual approaches to study the phenomenon of dreaming.

We want to thank all people (authors, referees, copyeditors, editorial board members) who helped us to create and maintain the *International Journal of Dream Research*. As this open access journal is free of charges for the authors, all work is done on a voluntary basis. We hope that interest in the journal will continue to increase and researchers will send in their findings to be published in the *International Journal of Dream Research*.

References

- De Koninck, J., Prevost, F., & Lortie-Lussier, M. (1996). Vertical inversion of the visual field and REM sleep mentation. *Journal of Sleep Research*, 5, 16-20.
- Hall, C. S., & Van de Castle, R. L. (1966). *The content analysis of dreams*. New York: Appleton-Century-Crofts.
- Schredl, M. (2003). Continuity between waking and dreaming: a proposal for a mathematical model. *Sleep and Hypnosis*, 5, 38-52.
- Schredl, M., Desch, S., Röming, F., & Spachmann, A. (2009). Erotic dreams and their relationship to waking-life sexuality. *Sexologies*, 18, 38-43.
- Schredl, M., Fuchedzhieva, A., Hämig, H., & Schindele, V. (2008). Do we think dreams are in black and white due to memory problems? *Dreaming*, 18, 175-180.
- Schredl, M., & Hofmann, F. (2003). Continuity between waking activities and dream activities. *Consciousness and Cognition*, 12, 298-308.
- Schwitzgebel, E. (2003). Do people still report dreaming in black and white? An attempt to replicate a questionnaire from 1942. *Perceptual and Motor Skills*, 96, 25-29.