

# “Complicated movements should be practiced in dreams” Paul Tholey about sports, lucid dreams and consciousness

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*Summary.* Paul Tholey (1937-1998) was one of the pioneers of modern lucid dream research and he had a tremendous impact on lucid dream research in general and on my own work. Therefore, it is a pleasure to write a review about the edited book by Gerhard Stemberger (2018), which covers a collection of eleven papers written by Tholey. Stemberger and Tholey knew each other very well and this book was a long-planned project. Together with Tholey, when he was still alive, they decided on the selection of papers included in this work. In this book review, I would like to introduce and review the edited book and the papers of the collection, give some background information on Tholeys work, mainly in the context of lucid dream research, and finally add some personal notes.

*Keywords:* Lucid dreaming, Paul Tholey, Consciousness

Paul Tholey (1937-1998) was one of the pioneers of modern lucid dream research and he had a tremendous impact on lucid dream research in general and on my own work. Therefore, it is a pleasure to write a review about the edited book by Gerhard Stemberger (2018), which covers a collection of eleven papers written by Tholey. Stemberger and Tholey knew each other very well and this book was a long-planned project. Together with Tholey, when he was still alive, they decided on the selection of papers included in this work.

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## 1. Review of the edited book

The edited book covers a collection of eleven papers written by Tholey organized in three different topics: (I.) Gestalt theory of sensory-motor control, movement, and sports, (II.) Gestalt theory of lucid dreaming and differing states of consciousness, and (III.) Gestalt psychology and phenomenology. The texts are preceded by a very well written introduction by Stemberger which not only acknowledges the included papers but also gives vulnerable background information, anecdotes, and historical notes about Tholeys

academic career and his work in the light of Gestalt theory.

As I will describe in the next chapter, Tholey was not only a scholar of Gestalt psychology but he was also a professor for sport psychology. Therefore, it is not surprising that he applied the Gestalt psychological framework to the field of sports. This is laid out in three papers of the first section. In the first paper of section I, Tholey (1980a) outlines the epistemological model of critical realism one of the fundamental principles of Gestalt theory – a concept which is central to all papers by Tholey and, therefore, can “be considered the meta-theme of Paul Tholey’s entire scientific life” (Stemberger, 2018, p. IV). Critical realism postulates a strict distinction between the physical world (physical body and physical environment) and the phenomenal world (phenomenal body ego and phenomenal environment). The physiological correlate of the phenomenal world is represented by the cortical processes in the psycho-physical level, (Psycho-Physisches-Niveau, PPN), a hypothetically assumed area of the central nervous system. In the waking state, sensory and memory processes excite patterns in such a way that the phenomenal world represents a percept of the physical world. The strength of the theoretical concept is that sensory-motor control is explained by the interaction of the phenomenal and physical body, e.g. the phenomenal body is controlling the real body in the fashion of servo mechanism.

Whereas the theoretical introduction of the first paper remains on a very abstract and philosophical level, the second paper applies the framework to the field of sports (Tholey, 1984). With the epistemological terminology from the previous paper, Tholey explains motor control and motor learning in sports as the organization of the phenomenal field. A first example refers to a common reported experience in sport that the athlete’s equipment becomes an extension of their body, for example, an athlete might experience that his or her body becomes a unit with his or her skiers or tennis racket. This emergence of new features is related to the experience of the phenomenal world whereas the tennis racket can merge with the body and form the phenomenal

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field in ways which contradicts the physical world. A second illustration refers to the experiences during motor learning where, for example, a basketball player acquires a new motor skill, e.g. a hook shot, changing his or her attentional focus from a body orientation, e.g. how to move the arm, in the beginning to a goal orientation, e.g. the basket, in the advanced learning stage. Again, those changes are related to changes in the phenomenal field, however, from a Gestalt psychological perspective a body/ego-centration disrupts the unity of the phenomenal field which leads, for example, to heightened tension in the movements of the athlete. Consequently, Tholey proposes that during learning the athlete should try to avoid a body orientation.

Such practical consequences are central to the third paper of the first section, in which Tholey (1987) postulates six principals for the teaching-learning process of actions in sports like the above described principle of 'thingness' (Prinzip der Sachlichkeit) which suggest focus on relevant areas of the "surrounding" ("things" that are relevant) rather than an ego-centration.

However, the terminology of Gestalt psychology may be one of the reasons why Tholeys work never became widely accepted within German-speaking sport science, e.g. without the epistemological vocabulary most postulated principals just seems awkward when Tholey was explaining the learning process as an improvement in the organization of the phenomenal field towards good gestalt, (Prägnanz). However, the interesting examples throughout the first three papers makes the first section of this book a good read and will be also useful for readers not interested in sports.

Section II comprises six papers, which focus on lucid dreaming and consciousness. The first paper of the second section is a conference preceding where Tholey (1977) presented his work on lucid dreams and eye movements at the 30th annual congress of the German association of psychology in 1976. In this short paper, Tholey reports a study with five lucid dreamers applying an experimental-phenomenological approach whereas lucid dreamers performed the same tasks within a lucid dream and reported their experience after awakening. In this study, he could show for example that the fixation of the gaze in the dream leads to awakening. Furthermore, he proposed a strong relationship between gaze behaviour in lucid dreams and eye movements of the sleeping body. However, Tholey was not a sleep physiologist and he could never prove his hypothesis that the gaze behaviour should correspond with eye movements in lucid dreams which was shown by Hearne and LaBerge, (see next chapter).

The next two papers in this section are probably the most influencing works of Tholey on lucid dream research. In the second paper of the second section, Tholey (1980b) applies the epistemological framework of critical realism on lucid dreaming which proves to be a very helpful and heuristic model by differentiating between the real world, the sleeping body and bedroom, and the phenomenal world, the dreaming body and dream environment. Tholey underlines that such discussions are necessary when lucid dreaming is confronted with behaviouristic, mythological, depth psychological or Gestalt therapeutic concepts. For example, one argument from a naïve perspective could be that lucid dreaming is not a real phenomenon because in the dream state someone cannot consciously think that he or she is aware of something, but it is only dream in which he or she had the impression of being aware. Tholey's answer is that it

is not justified to say of a phenomenal fact that it is not real. Phenomenal conditions are simply there – regardless of being awake or dreaming (in the second sense of reality). Actually, in Gestalt psychology five different senses of reality are distinguished; pointing in the direction that the Gestalt psychology framework is rather complex and that the first part of the paper is again very abstract and philosophical, but nevertheless worth reading.

The second part of the paper is more applied and Tholey introduces his own developed reflection technique to induce lucid dreams (sometimes simplified to reality testing technique). Reflection technique involves asking oneself regularly during the day whether one is dreaming while examining the environment for possible incongruences. Reflection is based on the continuity hypothesis, which states that waking experiences are reflected in dreams. Thus, reality testing in wakefulness can be transferred to dreams and serve as a trigger for lucid dreaming.

In the third paper of section II, Tholey (1981) presents findings from about 60 lucid dreamers providing about 400 lucid dreams trying to answer different questions to different topics. Tholey's work applied again the experimental-phenomenological approach where several lucid dreamers performed the same tasks within a lucid dream and reported their experience after awakening. In one of those studies, lucid dreamers were instructed to perform different complex sport skills in their lucid dreams, like skiing or gymnastics, which the participants already knew how to do in waking life. The participants reported that they had no difficulties in performing those complex sport skills during their lucid dreams. Furthermore, the participants reported that the movements were accompanied by a pleasant feeling in the dream and, due to the practice, that the movements improved in both the dream state and the waking state. Those results showed for the first time that practicing sport within lucid dreams has a positive effect on performance during wakefulness.

The second application which is extensively discussed in that paper, is the use of lucid dreams in the therapeutic setting. The paper is packed with very interesting and helpful dream reports highlighting the need for phenomenological approach in lucid dream research.

In the fourths paper of the second section Tholey (1985) describes several phenomenological experiments in which he tries to answer the question, "Do dream characters have their own consciousness?" In this study proficient lucid dreamers were instructed to ask their dream characters to accomplish certain tasks in lucid dreams, such as to draw or write something. Results revealed that dream characters can show remarkable cognitive abilities (e.g., write unknown words or draw pictures), however, their performance was poorest in arithmetic. One interesting conclusion was that cognitive abilities of the dream ego, and those of other dream figures during lucid dreams, should be viewed in connection with distinct cerebral processes.

Finally, the last two contributions from this section turn to more general questions of consciousness research and, finally, to the development of consciousness. The fifth paper of section two (Tholey, 1989a) has a kind of programmatic character for the so-called "Consciousness" magazine („Bewußt Sein"), which was launched in 1989 (which, unfortunately, had only one edition). In any case, Tholey provides in this text different concepts of consciousness from the perspective of Gestalt theory. Finally in the sixth paper

of section II, Tholey (1989c) discusses the idea of exploring ways and means to achieve “higher” states of consciousness. In parts, this text connects all the papers before and, therefore, has a repetitive character. However, the thoughts on what characterizes the “higher” state of consciousness are very intriguing.

Section III includes two papers about Gestalt psychology and the research methods used. The first paper of the third section is an introductory text in Gestalt psychological principles which was originally published in a handbook of psychology, (Tholey, 1988a). This text is a wonderful starting point if you are not familiar with Gestalt psychology. The second paper of section III, (Tholey, 1986), is actually a reply to a discussion between Kebeck and Sader (1984) and Bornewasser and Bober (1985) about research methods to the phenomenological-experimental approach of Gestalt psychology. Both texts are very helpful to understand the basic ideas of Gestalt theory and maybe a good starting point if you are not familiar with it. To finish the story you could read also the final reply by Bober and Bornewasser (1986).

## 2. Biographic notes about Tholey (1937-1998)

Paul Tholey was born on the 14th of March 1937 in St. Wendel in Germany. He studied mathematics, physics, sports science and later psychology at the University of Frankfurt. His most influential teachers were Edwin Rausch (1906-94) in psychology and Kurt Kohl (1918-2002) in sports science – both prominent Gestalt psychologists (of the second generation). Gestalt psychology has its roots in 1890 where Ehrenfels (1890) published a paper on the perception of melodies and was later founded by Wertheimer, Köhler, and Lewin. It has developed an elaborated theoretical system that extends to different areas of science, (e.g. perception, learning, thinking), which shaped Tholey’s scientific thinking (for a profound introduction to Gestalt psychology see Tholey, 1988a).

From 1974, Tholey taught as a lecturer, later as a professor of psychology at the University of Frankfurt. In the year 1982 until 1988 he accepted a professorship for sports science at the Technical University of Braunschweig. Besides teaching sport psychology in theoretical classes, he likewise was teaching practical courses of different sports, (e.g. skateboarding), and he himself was a highly skilled athlete. It’s one of my favourite anecdotes that Tholey told me on a conference in 1998 (see next chapter) how he practiced his balancing skills in his lucid dreams and that this practice helped him to accomplish extraordinary balancing tasks like riding awkward unicycles or skateboard in a handstand but also allowed him to snowboard without bindings.

Tholey is one of the pioneers in modern lucid dream research together with LaBerge in the US, Jayne Gackenbach also US later in Canada, and Keith Hearne in the UK, all prominent researchers in this field. LaBerge and Hearne could both validate lucid dreams with sleep recordings and the method of eye signalling in their doctoral work (Hearne, 1978; LaBerge, 1980). Gackenbach (1978) followed a quantitative approach and presented in her dissertation the first comprehensive study on personality factors on lucid dreaming. About the same time, Tholey did his research on lucid dreaming in Germany. In the 1980s, a growing interest in lucid dream research produced also an incredible output on lucid dream research which is documented Journals (Lucidity Letter, NightLight), books (conscious mind, sleeping brain),

conferences and societies <https://journals.macewan.ca/lucidity/home>.

Tholey was an active player in those proper years of lucid dream research which can be seen in his different activities. He was the organizer of the First European Congress on Lunar Research at the University of Frankfurt and in 1987 a member of the founding members of the European Association for Dream Research (1987), a member of the International Association for Dream Research and the Lucidity Association, founding member of the International Society for Awareness Research and its applications CORA (1989), member of the European College for the Study of Consciousness and the Institute for Consciousness and Dream Research in Vienna (1994).

Paul Tholey died on December 7, 1998 in Gronau in Bad Vilbel from heart failure.

## 3. My personal notes

Paul Tholey was my hero during the good old days when I was a student at the end of my university studies in sport science. The time when I had plenty of time to spend in lectures, seminars and libraries at Heidelberg University to discover the full range of science from kinesiology to psychology. The time when I stumbled by chance over the topic of lucid dreaming and decided to spend weeks with disturbed nights of sleep just with one goal in my mind; to experience a lucid dream. I remember the time when I woke up from my first oneiric adventure with a big smile on my face with the idea to do research on lucid dreaming with the hypothesis that practice in lucid dreams could enhance performance during wakefulness. The time when I attended my first scientific conference in Vienna in 1998: Dreaming & Consciousness organized by Brigitte Holzinger – who was able to gather all important researchers in that field of research at that time, like Michel Jovet, Stephen LaBerge, Wolf Singer, Inge Strauch, Allan Hobson, and many more (incredible when I read the speakers list today) and, of course, Paul Tholey. I chatted with Tholey on two occasions; the first time was a brilliant, mind blowing conversation, (or better described as a monologue by Tholey), about different aspects of motor learning in lucid dreams; and the second time, a very disturbing talk with an old, strange man about dying. In the same year Tholey died, just at the time when I spent a study year abroad in the US including an internship at the lab of Stephen LaBerge – my second hero during the good old days. The time when I had plenty of time to do my own experiments in lucid dreaming and spend night after night in the sleep lab at the basement of Stanford University.

As a student I collected every article written by Tholey and LaBerge. An easy task with LaBerge’s work because he just handed me the copies at his famous Lucidity Institute located in Palo Alto. However, obtaining copies of Tholey’s work was more difficult. This is still the case today with all the online repositories. One had to dig in the archives of libraries to find, for example the correct volume of Gestalt Theory, or a conference proceeding of the Arbeitsgemeinschaft für Sportpsychologie held in Kiel in 1986, or Tholey’s own edited German journal *Bewußt Sein* which only covered one issue. I found almost all of them and read most of the papers twice or more. Tholey not only introduced me to the topic of Klarträume, (the German expression for lucid dreams coined by Tholey which means dreams of clarity), and his findings about practicing sports during lucid dreams but also to Gestalt psychology. All his texts were written in

a critical and sharp but sometimes also harsh way – which I loved to read.

#### 4. Final remarks

There is one downside with the book by Stemberger for all non-German reading people, it is written in German because the texts by Tholey are written in German. I'm doubtful that a google translation will also translate the sharp thinking world of the collected work of Tholey and consequently my advice can only be to read the original work. Fortunately, Tholey published also a small number of English texts. Those papers will not cover every aspect of Tholeys thinking, but certainly, they are worth reading, (Tholey, 1983a, 1983b, 1988b, 1988c, 1989b, 1989d, 1990).

Finally, the quotation of the heading "Complicated movements should be practiced in dreams" is from Tholey when he was interviewed by Franz Mechsner for a story on dream research published in the journal *Geo* (Mechsner, 1994).

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