Sleep Paralysis
Pathophysiological Phenomenon and Extraordinary Experience

Gerhard Mayer
Accounts in classical works of literature

Ernest Hemingway (1899-1961): The snows of Kilimanjaro
„It moved up closer to him still and now he could not speak to it, and when it saw he could not speak it came a little closer, and now he tried to send it away without speaking, but it moved in on him so its weight was all upon his chest (...) it crouched now, heavier, so he could not breathe."

Guy de Maupassant (1850-1893): Le Horla
„I feel (...) that somebody is coming close to me, is looking at me, touching me, is getting onto my bed, is kneeling on my chest, is taking my neck between his hands and squeezing it – squeezing it with all his might in order to strangle me."

Herman Melville (1819-1891): Moby Dick
„... and for days and weeks and months afterwards I lost myself in confounding attempts to explain the mystery. Nay, to this very hour, I often puzzle myself with it.“
Sleep paralysis experience – *terra incognita*?

- universal phenomenon (experienced independently of place, time, and culture)
- relatively common phenomenon (lifetime prevalence about 8%)
- ... but relatively little known in our society
- of small clinical relevance
- SP is not *terra incognita* but information transfer is needed and important
Prevalence, cultural differences

• Lifetime prevalence: 7.6% (metanalysis of 35 studies; $N_{ges} = 36,533$)
• among students: 28.3%
• among psychiatric patients: 31.9%
• in Japan (general population): 33.9%
• among Japanese students: 43% resp. 38.9%

→ lack of standardization in surveys
→ cultural factors seem to play an important role
Physiological basics

- REM sleep is characterized by an almost complete paralysis of the body (atony) → sleep paralysis

SP as parasomnia:
- SP can start before falling asleep
- SP can start after awakening

„Sleep paralysis likely represents the juxtaposition of the atonia and dream imagery (i.e., hallucinations) of REM sleep with wakefulness.“
(Sharpless, Doghramji: 140.)
Phenomenology of SP

SP has, in addition to consciousness and wakefulness, three basic characteristics:

• Atony
• Hallucinations
• Fear
Atony = absolute immobility of the arbitrarily movable muscular system

- Exceptions: movement of eyes, muscles of respiration, part of throat
- Problems with respiration, feelings of suffocation
- Feelings of pressure (chest, face, genitals)
- Incapability of vocal articulation
- Sometimes groaning and moaning are possible
About 80% of SP are accompanied by hallucinations.

- **Auditory hallucinations**: humming, scratching, scraping noises, whispers, various types of speech, sounds of footsteps, etc.
- **Sensed presence**: often perceived as ambiguous or malevolent; distinctly non-human
- **Tactile hallucinations**: feelings of heat, cold, pressure, throttling, vibrations
- **Kinesthetic hallucinations**: falling, flying, floating, spinning, out-of-body experiences
- **Visual hallucinations**
Visual hallucinations

Visual hallucinations of inanimate objects
• Dark shadows
• Blobs and lights of various colors
• Geometrical shapes
• Real-world objects (not necessarily belonging to a bedroom)

Visual hallucinations of ‘entities‘ (usually humanoid shapes)
• Living or dead relatives
• Unknown persons, partly hooded or masked
• „Shadow people“
• animal-like, humanoid shapes
• Ghosts, demons, aliens
Fear/distress

SP is usually a very fear-laden experience

During SP:
• fear that the paralysis will be permanent
• Feeling of being in danger of death
• fear of malevolent intruders, partly of allegedly ‘paranormal’ nature (ghosts, demons etc.)

Behavioral changes in everyday life:
• Fear of nighttime, bedroom, going to sleep
• Fear of having a serious illness
• Fear of becoming crazy, or being declared as crazy
• Increased daytime sleepiness
Connections to other extraordinary experiences

SP has remarkable connections to following ExEs:

• **Lucid Dreams**: the REM dreamer is conscious about his dream state (the waking initiated lucid dream technique sometimes can cause a SP)

• **Out-of-body experiences/, astral projection’** (SP can be used to induce an OBE)

• **Alien abduction experiences**: strong parallels of the phenomenology of both experiences (framing of a SP experience with an alien narrative leads to the construction of a typical encounter experience. However, not every abduction experience can be explained with SP)
Theories, interpretation, coping strategies

Neurophysiological and psychological interpretations and ways of dealing

Non-materialist and heterodox interpretations and ways of dealing
Neurophysiological and psychological interpretations

Sleep medicine perspective:

- Desynchronization of physiology of REM sleep and state of consciousness
- In general, little is known about the causes
- Genetic factors are not verified (in contrast to narcolepsy)
- Triggering factors (hypotheses): sleep deprivation, poor sleep quality, unusual sleep schedules, disturbances of circadian sleep-wake cycle, supine sleep position, comorbidities (e.g. anxiety disorders, PTSD), psychical distress
- Virtually no correlations with psychological personality traits
Psychodynamic interpretations

SP as symbolization of unconscious intrapsychic conflicts

- Freud: unconscious conflict of will
- Lewin: approach vs. avoidance conflict
- Fach & Belz: human bonding vs. autonomy conflict. SP interpreted as an external dissociation phenomenon
Non-materialist and heterodox interpretations

Many terms, many culturally shaped concepts ... ... but a similar phenomenology on a neurological and physiological level (?) SP is caused by: the devil, incubi, succubi, demons, vampires, werewolves, ghosts, witches, aliens, shadow people ...

Examples:

• Inuit: “It was believed that during the state of *uqumangirniq* (= SP), one's body would temporarily separate from one's *tarniq* (= *one the three souls*) – and one could wake up without the *tarniq*’s return.“ (Law & Kirmayer, 2005) Cause: being cursed, e.g. by a malevolent shaman

• Italy (Abbruzzi) – *Pandafeche*: a witch with holes in her hands causes SP
Kanashibari in Japan

*kanashibari* = Japanese designation of SP

- knowledge of *kanashibari* is widespread: 98.4% of students (n=635) knew the term (Fukuda et al., 1987)
- Three interpretations
  - Conventional: distress, sleep disorder, etc.
  - Heterodox: *kanashibari* as side phenomenon of the presence of spiritual entities;
  - Inclusive: *kanashibari* as **one** phenomenon with **two** contexts of appearance
Coping strategies and measures

• Recurrent isolated SP from a sleep medicine perspective (parasomnia)
  – Sleep hygiene, stress-management strategies, avoidance of supine sleep position, training of coping strategies (sleep diary, imagination, exercises to disrupt SP), agreed signal noises
  – de-dramatization

• Psychodynamic interpretation
  – Realization and therapeutic procession of the assumed causing psychodynamic conflict
Non-materialist and heterodox dealings

‘Folk methods‘ often are based on empirical knowledge and intersect with several conventional medical treatments (avoidance of supine sleep position, attempt to move extremities or other body parts, etc.); however, they partly go beyond these limits and allow conclusions about underlying heterox interpretations:

• Placement of objects for protection
• Use of prayers and other religious rituals for prevention
• Placement of countable objects
• Going to a shaman or priest
Interim summary

- A common (neuro-) physiological-based core experience can be assumed
- Huge cultural differences in interpretation and dealing
- In our culture we have two primary reactions: irritation and fear → can lead to behavioral changes
- A high degree of familiarity can significantly lower the level of fear (Japan)
  → Knowledge and information are important
Survey among sleep laboratories and clinics

- Short online questionnaire concerning the clinical relevance of SP
- Email to 315 German laboratories and clinics
- Response: only 20 completed questionnaires
- Telephone follow-up interviews
- Expert interview

- SP is of very small clinical relevance
- Concerned people possibly have the fear of being called crazy, and therefore do not search for help from the doctor or sleep laboratory

- It would be a mistake to draw generalizing statements about the phenomenon from the clients of clinics, doctors, or counselling centers (this not only applies to SP but also to other extraordinary experiences!)
New media: self-help and supporting groups

• Closed Facebook group “Schlafparalyse”, founded in August 2015
• Currently about 750 members
• Various kinds of members with very different backgrounds, motives, interpretations, and approaches
• “Thanks for being accepted into the group. I have a question: even as a child I experienced it one or two times but since about two years I have the experience three to five times per month. I therefore visited many doctors but the diagnoses were so different, from fantasy to epilepsy to schizophrenia – but all of this is bollocks. I am physically and mentally fine. So my question: I have an appointment at the sleep laboratory. Does this make sense at all?” (almost randomly selected entry of the last days from the SP Facebook group)
How to react from a professional counselling perspective?

- Joining and attending such groups; being part of networks
- Providing information for the group members (SP manual with practical advice, references to relevant articles and books)
- Call attention of physicians and sleep medical laboratories to the phenomenon
  (“In fact, I come upon this phenomenon a bit more often in daily clinical practice because I am now sensibilized” – sleep medic in an email)
- Examine the variety of needs, motifs, interpretations, and approaches of the members in order to get a less biased idea of the phenomenon as well as the concerned persons
Thank you for your attention!

Literature:
