FLYING (HUMAN) BODIES IN THE FINE ARTS - DREAMS AND DAYDREAMS OF FLYING

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ABSTRACT
In a lecture given in the year 1882 the Vienna Physiologist Sigmund Exner considered „The physiology of flying and floating in the fine arts“ (Exner, 1882). In this still fascinating paper Exner reflects in a phenomenological approach on the experiential foundation of the depiction of flying human (respectively superhuman) bodys in classic artworks (e.g. Giorgione, Giotto, Masaccio, Michelangelo, Rubens and Titoretto). Referring to Fechner Exner basically assumes that pictorial suggestions of flying and floating bodies correspond to the recollection of wake human perception. Once in the lecture he mentions his own experience of flying in dreams and ascribes his sensations during these dreams to the wake experience of swimming.

My paper follows Exner’s hint and analyses the role of dreams in the (artful depicted) imagination of flying and floating bodies. It is based on a qualitative content analysis of flying dreams (collected by interviews and by review of cases reported in the scientific and popular literature on dreams) and daydreams of flying (spontaneous or evoked during an interview).

The results suggest that dreams of flying involve sensations in their own right even if mentation in dreams recurs to the recollection of wake perception. Further there is some evidence that certain stiles/aspects of depicting flying and floating bodys are rooted in flying dreams, whereas others are more common to typical aspects of daydreams of flying.

In the paper I will discuss the phenomenological findings of my research in the context of recent results in the field of psychobiology of dreaming.

Keywords: Dream; Fine Arts; Flying; Imagination; Sensation.

„While contemplating a work of art, the attentive observer is confronted by a great many questions which are of interest from a psychological standpoint. One such question is that of how the artist manages to depict objects and events which nobody has ever witnessed; indeed whose very existence is impossible. Nor is it simply a matter of depiction; but rather the ability to represent these things and events in such a way that they do not appear strange, but on the contrary almost familiar, as if summoning up old memories. Here, I would like to approach this particular artistic phenomenon through an examination of how, for thousands of years, artists have been depicting figures which float or fly through the air as if through their native element.“ (Exner, 1882, 7).

These are the first lines of „The physiology of flying and floating in the fine arts“, a lecture given in the year 1882 by the Vienna Physiologist Sigmund Exner. In my paper I will at first summarize Exner’s thoughts and then follow a path which Exner hints at; namely, the relation of depictions of
flying in works of art to the experience of flying in dreams. From this perspective, as I hope will
become evident, the elements of Exner’s fundamental question are somehow turned upside down.

Before he discusses the specific ways that flying human bodies have been depicted in the classic
works of painters such as Giorgione, Giotto, Masaccio, Michelangelo, Rubens and Titoretto, Exner
deduces how human beings capable of flight would look if constructed on the basis of straightforward
physiological or physical constraints.

Starting from the anatomy of birds, Exner extrapolates how the chest of a human equipped with
functional wings in the place of arms would appear. He concludes that the price of the power of
flight would be the loss of human shape due to an enormous increase in the size of the chest
muscles. In this hypothetical anatomy of a flying human, Exner transforms arms into wings instead
of construing additional wings (like those of the angels depicted in works of art). According to
Exner, additional wings create, at best, the impression of a deformed animal. He does not enlarge
on this statement in his evaluation of works of art contained in the second part of his lecture

As an alternative to the impossible case of winged humans, Exner considers instead the preconditions
for floating or soaring bodies. He predicts that weightlessness, resulting, for example, from an
altered relation of specific body-weight to the surrounding medium, would result in enigmatic
pictures that would be far from beautiful. There is no above or below for weightless bodies, no
upright position. What Exner extrapolates in this case is quite familiar today from scenes of space
flight.

Having concluded that artistic depictions of flying or soaring humans cannot be based on consistent
scientific insight, Exner goes on to examine works of art using an inductive technique. Here, the
conviction that convincing depictions have to relate to memory, that they must stem from recollected
perceptions, figures as a heuristic principle.

He begins with two general observations:

a) Artists depict human bodies of obviously reduced weight
b) There is no form of movement of a winged human body which can’t be found in the depiction of
a human body without wings. In other words, wings are symbols in the sense of a conventional
sign.
Exner exemplifies the first observation in a hypothetical calculation of weight, velocity, air resistance and inclination of the body in the case of an amoretto in a work by Raphael (see Figure 1). Assuming normal human weight, Exner calculates an incredible, storm like velocity of 54 meters per second, whereas a reasonable velocity of 2 meters per second corresponds, according to his formula, to a weight of two grams (see Text-box).

By means of more conventional induction, Exner delineates three categories of depictions of levitated human bodies.

The first category contains different forms of external forces or support, for example wind, clouds, (flying) animals or human helpers. He exemplifies the latter with Michelangelo’s depiction of God in „The creation of Adam“ (see Figure 2). The logical regressus at work in this delegation of levitation reminds Exner of the psychological plausibility of Baron Münchhausen’s physically absurd ability to pull himself upward by grasping his own hair.

The second category refers to the inclination of floating subjects. Exner supposes that inclined bodies recollect memories of running and jumping humans, flying birds and, last but not least, human experiences of swimming and diving. As proof of the close affinity between the
conception of flying and floating, and the experience of swimming, Exner mentions his own flying dreams in which he feels himself swimming in the air. This swimming in the air, Exner remarks, only differs form real swimming in as much as he is able to move upward and downwards without effort.

In the third category of flying and floating human bodies, a force from within the body itself seems to cause the movement. Exner again exemplifies this tension with one of Michelangelos depictions of God (see Figure 3). The movement looks like a leap in slow motion. Exner subsumes pictures of rising Christ as more or less inadequate realizations of this ‘inner force’ category.

There is obviously some overlap between the three categories. For example, swimming would seem to fit all of them. Indeed swimming is Exner’s favorite choice of waking experience when alluding to what he considers apt depictions of flying and floating in the air. As for the two examples of Michelangelo’s work he refers to, he states that they look as if they were created from swimming models; and he suggests they could both be recreated as ‘living pictures’ in the water.

Here we have a summary of Exner’s argumentation in which description in a - sometimes ironically exaggerated - scientific manner goes hand in hand with seemingly idiosyncratic evaluation. There is no doubt that the problematic character of angel’s wings from the perspective of human aerodynamics has been observed independently by art historians; additional wings impress as a kind of luggage - as a backpack (cf. Bachelard, 1943). There has also been inter-subjective corroboration by art experts of the widespread similarity between the depiction of airborne subjects and swimming human bodies. But there are depictions of flying and floating which don’t fit into Exner’s scheme. Are, for example, depictions which show bodies somehow hanging in the air (like in the case of levitated saints, see Figure 4, or resurrected bodies) just inappropriate? Inappropriate because there is no experiential reference, no perception to be recollected from memory?

Psychologists like Wilhelm Wundt (1906, 112f) and Havelock Ellis (1911) suggested at a later date that the presence of angels and the like in all mythologies is due to the experience of flying and
floating in dreams and twilight (‘visionary’) sates of consciousness. Let us take a look at the quality of these experiences starting with Exner’s reference to his own dreams of that kind.

According to my sample of flying dreams (collected from interviews and by reviewing cases reported in the scientific and popular literature on dreams), it is not uncommon to experience oneself airborne in a dream while moving the body in a swimming motion. However, I doubt that anyone would have come up with such a notion if I had invited the audience, before reading my paper, to close their eyes and to imagine themselves flying. At least that only exceptionally happened when we asked our interviewees to do so. When we elicit responses in this manner they almost always include visual images - ‘a bird’s eye view’. Indeed they are often restricted to vision. There may be the feeling of spreading ones arms like wings and floating on the wind. This sensation of a (lifting) medium is the point where waking imagination or daydreams of flying come close to ‘swimming in the air’. Sometimes, if the subjects achieves a state of relaxation, they feel they are somehow losing weight. Sometimes, if they imagine they are taking off by jumping from a precipice, the subjects experience a sense of momentum. But kinesthetic illusions tend to be the exception in the waking imagination of flying.

The contrary situation emerges when we examine the variety of experiences encountered in flying dreams. Here, an astonishing transgression of the law of gravity, the basic kinesthetic experience of waking life, is the common impression. It is only rarely that the dreamers rise up in the sky like birds. Sometimes, there is the experience of a bird’s perspective. Whether the dreamer makes magical prolonged jumps, flaps his arms, or just hangs effortlessly a few inches above the ground, loss of weight is the overwhelming dream experience. Often dreamers are convinced that they really did fly, even after awakening. - The German astronaut Ulrich Walter (1997) noted that the waking reality of weightlessness matched exactly the flying dreams of his adolescence. He asks how the body is able to imagine something it never experienced?

The comparison of the phenomenology of the waking imagination of flying on the one hand and flying dreams on the other thus suggests that the core of flying dreams is not just a question of imagination. The sleeping body seems to provide the perception of weightlessness which the dreaming mind illustrates in different ways.

What phenomenology suggests can be explained by the current knowledge of REM sleep during which flying dreams seem to occur. Put shortly, the inhibition of sensual afferences together with involvement of the central vestibular system in the process of arousal would suggest that flying and
floating are not just bizarre imaginings but perceptual illusions providing the core for a variety of associations (Hobson & McCarley, 1977). This is corroborated by cases of vestibular pathology (Eisinger & Schilder, 1929) as well as by the results of experimental vestibular stimulation during sleep (Glonig & Sternbach, 1953; Hoff & Pötzel, 1937; Leslie & Ogilvie, 1996).

On the edge to wakefulness, flying dreams involve extraordinary vestibular sensations as well as awareness of the - incompletely felt - body. I assume that this explains the dream experience of a body that is flying and at same time inert, distorted or dismembered (specifically concerning the lower limbs). As for depictions of flying and floating bodies in the fine arts, this feature of flying dreams hints at a perceptual foundation for the lack of a bodily dynamic, which Exner finds fault with, for example, in pictures of resurrection. In some cases the inert flying body seems to reflect the actual reality of lying in bed. This is also related to the posture of the body as well as pillows and so forth as flying devices (see Figures 5-7 for examples from 20th century art and communication design).

The case of angels or saints without a lower body or simply reduced to a flying head also provide parallels with features of flying dreams that makes sense as specific states of body consciousness.

There is one remarkable exception with regard to sensations of the lower body in flying dreams: sexual sensations are quite often present in these dreams. This again matches the facts provided by sleep physiology; and it also explains the flying device used by witches.

Flying dreams and lucid dreams, i.e. dreams during which the dreamer is aware that he is dreaming, are both significantly correlated, involve appearances of bright light, allowing experiences of bliss.

Figure 5: Sketch after „Flying Dream“ by Allyn Bromley, 1997; cf. Lynn Gamwell, 2000, p. 221

Figure 6: Sketch after „New York Dream“ by Helmut Middendorf, 1980; cf. Lynn Gamwell, 2000, p. 258

Figure 7: Sketch after an illustration of Maurice Sendak in „Fly by Night“ by Randall Jarrell & Maurice Sendak, London: Bodley Head Children’s Books, 1977
(Hunt, 1989). What neurological can be labeled as photism, due to extraordinary arousal (and similar to phenomena in epileptic and migraine aura; cf. Sacks, 1996) contributes to give flying dreams the character of mythic or religious visions.

The mentioned aspects of flying dreams recur in so called ‘altered states of consciousness’ (be they induced by drugs, dance, meditation or some other way) and are partly congruent with ‘near death experiences’ (cf. Schmüing, 1938).

To conclude: Mythic and religious revelations and their depictions by painters thus betray not only an imaginational but also a perceptual foundation. Perhaps it is just those depictions of flying and floating human bodies enigmatic to ordinary, waking perception that deliver testimony of an extraordinary perceptual reality. That Exner favors a kind of aquatic circus as an apt depiction of flying and floating may be due partly to the habits of waking perception, partly to his own mode of flying in dreams. The ridiculous, inert backpack of additional wings, merely an allegoric sign, may not portray any of the varieties of perceived flying and floating in flying dreams (and other extraordinary states of consciousness), but it does reflect the strong association of ‘flying’ and ‘bird’ in waking consciousness. - Everything else is hard to imagine, isn’t it?

References
Ellis, Havelock (1911). The world of dreams, London: Constable & Co..
Wandt, Wilhelm (1906). Völkerpsychologie II/2, Mythus und Religion. Leipzig: Engelmann

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