philippe meyer

DREAMS AND DESIRE

extract by The Art of Sleep

From the 16th until the early 20th century, scientists rarely turned their sights on the mechanics of dreams. Most continued to espouse the ideas that had reigned throughout the middle ages and were summed up jovially by Chaucer in The Canterbury Tales "Dreams are vanity, God knows pure error. Dreams are engendered in the too-replete from vapours in the belly, which compete with others, too abundant, swollen tight". In the 17th century, dreams were considered by the likes of Descartes and Buffon as characteristics of the "body-machine" and clearly distinct from the soul. When the "spirits have enough force to push against some parts of the surrounding matter and make it tight, while the other parts remain free and relaxed... the machine represents the body of man who is asleep and who has various dreams as he sleeps".
Thirty years later, Locke would follow the same lines: dreams were a natural disturbance which did not merit in-depth study. "Tis true, we have sometimes instances of Perception, whilst we are asleep, and retain the memory of those Thoughts: but how extravagant and incoherent for the most part they are; how little conformable to the Perfection and Order of a rational Being".
Dreams would take their initial revenge in literature. At odds with this overly rationalist view of human behaviour, 19th-century Romantics and Symbolists discovered the attraction of dreams. Romantics in Germany founded the Sturm und Drang movement. The term itself sums up poetic inspiration: uncovering the violence of extreme passions in order to combat the tyranny of Reason. In their view, dreams unleashed emotions, they delved into the unconscious - a notion introduced in 1790 by Lichtenberg. The French Romantic movement was embodied by Gérard de Nerval: "Our dreams are a second life. I have never been able to penetrate without a shudder those ivory or horned gates which separate us from the invisible world. The first moments of sleep are an image of death; a hazy torpor grips our thoughts and it becomes impossible for us to determine the exact instant when the I, under another form, continues the task of existence. Little by little a vague underground cavern grows lighter and the pale gravely immobile shapes that live in limbo detach themselves from the shadows and the night. Then the picture takes form, a new brightness illumines these strange apparitions and gioves them movement. The spirits world open before us." Instead of expounding a theory on dreams. Nerval tried to capture the emotions they unleash. This fascination for dreams as a source of inspiration was shared by other ardent dreamers. Samuel Taylor Coleridge, one of the key figures in the English Romantic movement, first published his famous poem Kubla Khan as a "psychological curiosity". The poet fell asleep one day as he was reading the following line from Purchas' Pilgrimage: "Here the Kubla Khan commanded a palace to be built." Coleridge continued on for come three hours in a profounded sleep, at least of the external senses, during which time he had "the most vivid confidence that he could not have composed less than two to three hundred lines."

From hypnosis to psychoanalysis

The Romantic movement waged a succesful battle against the Thriumph of Reason ushered in by the Enlightenment. At the close of the 19th century, Romanticism held sway over the scientific world. After Dreams and Sleep by Alfred Maury (1861), and Dreams and ways of orienting them by Hervey de Saint-Denis (1867), French hypnotherapists realized that dreams were an active process with a "sui generis" dimension and function. They did their best to identify the raltion between sleep and will, memory, mental activity and perceptible impressions. Hypnosis became fashionable. Jean Martin Charcot, the leading neurologist of his time and head of Salpetriere Hospital in Paris, used hypnotherapy to treat hysterics, quick to fall into a semi-sleeping state where all response to external stimuli disappears. Sigmund Freud attended Charcot's courses in the early years of his medical career, as well as consulting psychiatrists like Liebaut and Bernheim at the Nancy School. They carried hypnosis even further than Charcot, using the power of suggestion to treat nerve diosorders other than hysteria.

Though fascinated by this research, Freud would nonetheless leave hypnosis behind, concentrating instead on natural state of sleep, and more specifically on dreams - the key to treating neuroses. Traumdentung (The interpretation of dreams) first appeared in 1899. Even the title of the work was provocative: traumdentung is the German word for the craft of fortune telling. And yet the doctor from Vienna had the firm intention of laying the foundations of a veritable science of dreams: "I must insist that the dream actually does possess a meaning, and that a scientific method of dream-interpretation is possible... The interpretation of dreams is the royal road to a knowledge of the unconscious activities of the mind." The basic elements of Freud's theories are now well known: dreams don't disrupt sleep, they are to the contrary the "guardian of sleep." Sexual frustrations and childhood wounds are ingrained deeply in the unconscious mind; dreams are an outlet for expressing repressed desires, which in turn are allayed. "For Freud, dreams are, on several accounts, a means of regression: a regression from the consciuos to the unconscious, from the present to the past, from a well developed to an archaic language." Dreams have their origin in the dreamer's past, which is why the same image may have completely opposite meanings for two different people, and dream interpretation books are sheer nonsense. Dreams that etch themselves in the memory must be unraveled, by separating remnants of the day's events from traces of earlier personal experiences or any universal symbols.

Dreams and archetypes

Carl Gustav Jung was born nineteen years after Freud. An early student of the founder of psychoanalysis, Jung soon borke with his teacher's interpretation of dreams. Rejecting Freud's almost exclusive interest in sexuality, Jung believed that the unconscious mind was filled with much more than forgotten events or repressed emotions. During his work with psychotics at Zurich Hospital, he noticed that certain symbols resurfaced in dream after dream. "The devolepment of consciousness is a slow and laborious process that took untold ages to reach the civilized state... Although the development since seems to be considerable, it is still far from complete. Indefinitely large areas of the mind still remain in darkness... Our psyche is part of nature, and its enigma is just as limitless... Our new method treats the dream as a spontaneous product of the psyche." Every morning Jung would force himself to jot down the previous night's dreams. He took a particular interest in universal symbols, the sediments of

humanity he would later refer to as "archetypes." Jung was convinced that these figures interacted with the experiences, culture and character of each individual, structuring his subconscious more firmly than sexuality. For Jung, it is "the dream itself that must be analyzed, from within, like a poetic language that would be hopelessly marred if transleted into prose." This approach led some to claim they could discover revelations of all sorts in dreams, including a person's destiny and subconscious programming. In the final analysis, this approach differed little from Antiquity's view of dreams. "What we call psychic identity or participation mythique has been stripped off our world of things. It is exactly this halo, or fringe of consciousness... which gives a colourful and fantastic aspect to the primitive world."

Despite the rapid diffusion of psychoanalytic dream theories, science had not yet had its last word. Towards the end of the 19th century, a Russian physiologist, Marie de Manacéine, demonstrated that insomnia could provoke death in young dogs. Her discovery opened the way for new research on anatomy, chemistry and physiological correlations. Michel Jouvet, who would revolutionise the contemporary view of sleep and dreams, began his research by studying cats. For cats do, indeed, dream. After a period of slow sleep, during which the muscles fully relax, cats exhibit unusual behavior: electrical activity unique to the brain , with rapid waves and movements, in particular eye movements. If the deep section of a cat's brain stem is removed, the animal slumbers deeply, calm and limp. "Cats have a wide repertory. They can suddenly start. They can move as if closing in on a prey, tracking it with their eyes. At other times, they remain completely immobile as if lying in wait. They can lick themselves or their cage. They can begin biting themselves as if hunting down fleas. They can strike out repeatedly with their paws, as if toying with a mouse or playing with a ball of yarn. They can violently attack an imaginary enemy and exhibit all the classic signs of aggression... They can even mew, though it's rare. They never exhibit signs of sexual behavior. The dream world of cats apparently has no room for sexuality, so prevalent in man's dream world." A dreaming horse, stretched out on the ground fast asleep, begins sweating and panting as if it were at the height of the race. Hunting dogs often pounce just before waking. Birds also dream for very short periods, in their own unique manner. Chicken embryos dream during the last few days before hatching. The length of dreams varies greatly from species to species: chickens and cows dream twenty-five minutes a night, chimpanzees ninety minutes, and cats so long as two hundred minutes. Humans, in comparision, dream on average one hundred minutes a night.

The revolution in sleep

The discoveries made by scientist like Michel Jouvet over the last forty years have radically transformed science's knowledge of sleep. This work has identified an initial mode of sleep, non-REM (non rapid-eye-movement) sleep, characterized by specific physiological symptoms: lower heart rate and blood pressure, and a forty percent drop glucose consumption in comparison to the waking state. Next appears a second mode of slumber, known as REM (rapid-eye-movement) sleep, also called paradoxical sleep, as it mixes heigthened mental activity with the inhibition of muscle movement. During REM sleep, the brain's electrical activity speeds up: thoughts gallop, eyes dart back and forth, the penis becomes erect in the male. Yet the muscles are even more relaxed than during the slow and deep sleep which precedes dreaming; the seemingly dead body is alive with nimble thoughts. The Greeks were well aware of the paradox: Nyx (night) gave birth to twins, Hypnos and Thanatos (sleep and

death). The discovery of this third state of vigilance, distinct from wakefulness and sleep, revolutionized both the philosophical and medical approach to dreams. Non-REM sleep follows on the heels of REM sleep, until the onset of a new phase of dreaming (one night of sleep includes five sleep cycles). If the REM phase rarely takes place in the early hours of sleep, it can occur at the very end of the night, leaving the sleeper the memory of his dreams. Sleep is not a simple negative of life, nor is it lost time, or a nocturnal black hole: it has a vital biological function. Scientists now have a better understanding of the role of the two different modes of sleep. Non-REM sleep apparently serves to revitalize the tired body. REM sleep counteracts daily life's wearing effects on the nervous system, permitting it to safeguard its genetic properties. In fact, humans experience the greatest amount of REM sleep while the cortex of the brain is forming: "Studies on the sleep of fetuses and newborns has confirmed the hypothesis that REM sleep plays a role in the growth and programming of the brain. REM sleep is particularly abundant before and after birth, progressively decreasing through-out adult life. Animals born with already mature brains experience less REM sleep than other animals."
Cerebral activity is regulated by numerous innate and epigenetic influences. Dreams apparently reprogramme hereditary influences which have been altered by the subject's environment. REM sleep also enhances memory storage of life's daily lessons; dreams then play a vital role in the learning process.

The legacy of sleep
Pathologies are often a rich source of information for studying the functioning of the human organism. Narcolepsy is a sleep disorder which causes afflicted persons to fall asleep involuntarily, underscoring the relation between sleep, rapid eye movement and heredity, and their underlying biochemical mechanisms. When overcome with strong emotions, narcolepsy victims experience bouts of weakness which cause them to fall to the ground and have visual and auditory hallucinations. The frequent occurence of the disorder within families has confirmed a hereditary link. During these attacks, narcoleptics show rapid eye movements not found in any other brain disorder. This discovery has led scientists to definy narcolepsy as an excessive need ofr REM sleep, with a genetic predisposition. In contrast with normal sleepers, narcoleptics experience highly-fragmented REM sleep during the night.
It now appears that sleep is indeed structered by hereditary factors. Michel Jouvet recalls once discussing dreams with two indentical twins: "When I was a child - said one of the brothers - I often had the same dream. I was walking by a large house where I could see a woman dressed in black opening door to a large hallway." "His twin brother - says Jouvet - who resembled him like two peas in a pod, arrived at that very moment. Catching the last words of the story, he spontaneously finished the sentence: ...and hundreds of cats came running out! His brother looked at him in amazement: <i>How do you know what happened in my dream? I've never told it to anyone else!" The study of identical recordings of twins rapid eye movements has brought convincing proof of a hereditary influence on dreaming. Through the impetus given by Jouvet, an ethnological approach to dreams was born, positing the existence of ethnic particularities in eye movements accompanying dreams. The Bassaris of Senegal don't dream the same way as the Lapps of the Lofoten Islands. An enlightening comparison has been made between identical twins living apart or together from their earliest years. Twins raised together are subjected to identical innate and environmental influences, while those living apart share only the same innate program-

ming. Bouchard has shown that heredity has much greater influence than the subject's environment. Identical twins inherit many of the same physical and psychological traits, including the nature of their dreams, as has been shown in the similarity of their brains wave activity and rapid eye movements.
Nightmares, which are linked to traumatic experiences the brain cannot consciously confront without damage, are a heightened form of REM sleep. Scenes of nocturnal terror have left their imprint on man's mind throughout the ages. Hippocrates wrote in his time: "Oft times have I heard sleepers groan and cry out as if they were being smothered, then begin to flail about like madmen before at last waking." The father of medicine held that nightmares were caused by an excess of bile and dry matter in the blood. Later theories asserted that bad dreams were caused by uncomfortable bodily sensations: an overly heated room, awkward sleeping position, ill-fitting night clothes. In the 18th century, writer Ann Radcliffe ate indigestible foods before going to bed in order to procure nightmares to be inserted in her tales of horror and mystery. The Confessions of Thomas de Quincy are likewise filled with nightmarish images he witnessed in opium-inspired dreams. Yet in most cases, man is the hapless and unwillingly victim of the terrors which haunt the night, as T.S. Coleridge laments: "Night is my Hell, Sleep my tormenting Angel. Three nights out of four I fall asleep, struggling to lie awake - and my frequent Night-Screams have almost made me a nuisance in my own House. Dreams with me are no Shadows, but the very Substance and footthick Calamities of my life."
An important distinction must be made between true nightmares and the "sleep terrors" often experienced by young children. Night terrors usually arise during deep non-REM sleep. Children often scream out in the night and do not respond to efforts to comfort them until several minutes later. If they are not awakened, they immediately fall back to sleep, oblivious of their surroundings. In The Crib, poet Adrienne Rich describes a mother's helplessness before her child's torment: "I see your dream, cloudy as a negative / swimming underneath. / You blurt a cry. Your eyes / spring open, till filmed in dream. / Wider, they fix me / death's head, sphinx, medusa? / You scream."
Sleep terrors usually disappear when children reach six or seven years of age. Nightmares, on the other hand, occur during REM sleep. They are a "rerun" of a traumatic scene, and become more unpleasent as time passes and the precise circumstances of the initial shock are forgotten. A study conducted in Israel on Holocaust survivors showed that recurring violent nightmares effected mainly men and women who were poorly adapted on a social or emotional level. Tha brains of survivors who had succesfully rebuilt their lives apparently found a different way of dealing with these traumatic experiences, safeguarding them from unpleasent dreams. As Michel Jouvet says, "We are still far from unraveling the enigma of the function of dreams. Aren't dreams, in fact, the final frontier of one of scientific research's final frontiers: the brain's understanding of the brain."

[1] René Descartes, Treatise on Man
[2] John Locke, An essay concerning Human Understanding
[3] Gérard De Nerval, quoted in The Oxford Book of Dreams
[4] Sigmund Freud, The Interpretation of Dreams
[5] Agnés Cavet and Jean-Claude Penochet, La Voie freudienne
[6] Carl Gustave Jung, The significance of dreams in The Symbolic Life
[7] Francoise Perrot, L'homme qui reves
[8] Carl Gustave Jung, The language of dreams in The Symbolic Life
[9] Michel Jouvet, Le Sommeil et les Reves
[1] Claude Debru, Un sìecle de recherches
[11] Michel Jouvet, Le Sommeil et les Reves
[12] Taylor Samuel Coleridge, Letter to Thomas Wedgwood