

EMANUEL SWEDENBORG[†]

Elizabeth Foote-Smith and Timothy J. Smith
Berkeley, California, U.S.A.

Summary: How is it that the name of a brilliant 18th century scientist and philosopher, many of whose exceptional achievements were often advanced for his time, is almost never mentioned in the annals of science? And how did it happen that a man very deeply dedicated to the advancement of science experienced a vision that completely altered the course of his life? We suggest, based on his extensive self-analytical writings, that the source of his spiritual experiences was temporal lobe epilepsy (TLE) and that he is among the group of creative religious thinkers also suspected or known to have had epilepsy, from St. Paul and Mohammed to Dostoevsky, who have changed Western civilization. Key words: History of Medicine—Epilepsy—Temporal Lobe—Emanuel Swedenborg

Emanuel Swedenborg was born in 1688 in Stockholm, Sweden, the third child of then Regimental Chaplain Jesper Swedberg (later to become Archbishop of Skara), and Sara Behm. Four years later, the boy's father was promoted to the professorship of theology at Upsala University, so that Emanuel grew up in a highly scholastic and religious atmosphere. In a 1769 letter to a lifelong friend, he wrote:

From my youth to my tenth year, my thoughts were constantly engrossed by reflecting upon God, on salvation and on the spiritual passions of man....From my sixth to my twelfth year, it was my greatest delight to converse with the clergy concerning faith....(1)

Recognized as a talented student, Swedenborg received a classical education at Upsala University. Subsequently he became an ardent student of

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science and traveled throughout Europe, meeting most of the leading men of learning of that time. Ultimately he was to make original and advanced contributions in the fields of algebra, geology, philosophy, astronomy, cosmology, physiology, physics, anatomy, paleontology, crystallography, mineralogy, and theology. He became a member of the Royal Academy of Science. In 1719, the Swedberg family was ennobled by the Queen, and their name was changed to Swedenborg (2). Later, Emanuel sat in the House of Nobles as Baron Swedenborg and played a constructive part in the political affairs of Sweden.

During the 19th century, many distinguished persons including Blake, Emerson, Coleridge, Carlyle, Henry James Sr., Tennyson, the Brownings, Ruskin, Oliver Wendell Holmes, Thoreau, Goethe, Heine, and Balzac held Swedenborg and his ideas in high esteem (3). Ralph Waldo Emerson (4) described Swedenborg as:

a colossal soul (who) lies vast abroad of his times uncomprehended by them, and requires a long focal distance to be seen....One of the mast-odons of literature, he is not to be measured by whole colleges of ordinary scholars.

In *The New Philosophy*, Woofenden (5) asked:

[W]hy is a man of such obviously astonishing achievements...almost completely ignored in the annals of science? Why is he not ranked, as he apparently deserves to be, with such scientific explorers as Bacon, Galileo, Kepler, Newton, Darwin?...The answer probably lies in the fact that he wrote and published the *Arcana Coelestia* (6), described by Swedenborg in its title:

Arcana Coelestia, or the Heavenly Secrets which are in the Sacred Scripture or the Word of the Lord, disclosed here; here those which are in Genesis: together with the wonderful things which have been seen in the World of Spirits and in the Heaven of Angels.

This monumental work, published in Latin in eight quarto volumes between 1749 and 1756, marked Swedenborg's transition from scientist to theologian.

Swedenborg's spiritual eyes were opened in 1743. In an autobiographical letter (7), he stated it thus:

I have been called to a holy office by the Lord himself, who most mercifully manifested himself in person to me his servant in the year 1743, when he opened my sight to the view of the spiritual world and granted me the privilege of conversing with spirits and angels, which I enjoy to this day...From that time I began to print and publish the various arcana that have been seen by me or revealed to me, concerning heaven and hell, the state of man after death, the true worship of God, the spiritual sense of the Word....

More specifically, in *The Word Explained*, Swedenborg wrote:

The speech is exactly like the speech with one's associates on earth, but it comes from heaven...internally and it is so plain that it is heard in the same way as speech of the lips but in such manner that none of the bystanders hears or perceives anything at all...I can testify in sacred earnestness that I have been admitted into the spiritual world by the Messiah Himself, and this continually while I was writing these things which now come out in public.

When St. Paul, also suspected of having epilepsy with ictal visual and auditory hallucinations, fell to the ground and saw Jesus (Acts 22:9) those who were with him "...heard not the voice of him that spoke to me." Because of the impact of the *Arcana Coelestia* and his subsequent writings, Swedenborg was ridiculed by Emanuel Kant (8) who called him "the arch-fanatic of all fanatics," and dubbed his *Arcana* "eight quarto volumes full of nonsense." He was also accused of insanity by Lutheran clergymen. Of this charge, Coleridge (9) wrote: "O thrice happy should we be, if the learned teachers of the present day were gifted with a similar madness...."

A few years before Swedenborg died, some of his books were seized and their importation was prohibited, and he was charged with heresy. Very distressed, he wrote a letter of protest to the King (10) and although a trial had begun, ultimately nothing came of it.

Fortunately, Swedenborg kept a record of his dreams (which was not intended for publication) during the critical years from 1743 to 1744, and for 20 years he kept his *Spiritual Diary*, consisting of five volumes. Therefore, we have two valuable primary sources of information.

TEMPORAL LOBE EPILEPSY (TLE): IDIOPATHIC OR CRYPTOGENIC

Hauser et al. (11) showed that patients with epilepsy with “repeated occurrence of seizures in the absence of an acute precipitating history of prior neurologic insult” are usually categorized as “idiopathic” or “cryptogenic.” This is the case with Swedenborg. Based on his own testimony, Swedenborg had multiple symptoms of TLE, including a characteristic aura, falling, loss of consciousness, convulsions, visual and auditory hallucinations, and trance states. Postictal and interictal symptoms included double thoughts, mental confusion, memory loss, and behavioral changes. These symptoms are described chronologically herein.

The ecstatic aura

The ecstatic aura, a classic epileptic warning symptom with a history that dates at least back to Galen (12) occurs minutes or seconds before a seizure. EEG correlates were demonstrated by Cirignatta et al. (13) in 1980. The aura consists of “20-30 s [sic] of intense elation and ineffable all-pervading bliss, a feeling that the secrets of the universe [are] about to be revealed” (14). On April 5 and 6, 1743 (shortly before his generalized tonic-clonic seizure, GTCS), Swedenborg described such an aura in his *Journal of Dreams* (hereinafter designated JD). (Paragraphs in all his works have been numbered, in accord with Swedenborg’s lifelong practice.)

Had also in my mind and my body a kind of consciousness of an indescribable bliss, so that if it had been in a higher degree, the body would have been as it were dissolved in mere bliss. This was the night between Easter Sunday and Easter Monday, also the whole of Easter Monday.
[JD48]

Dostoevsky (15), who had hundreds of complex partial seizures (CPS), also experienced ecstatic auras, one of which coincidentally occurred, as with Swedenborg, on the night before Easter Sunday, more than 100 years later:

I felt...that heaven had come down to earth and absorbed me. I really perceived God and was imbued with Him. Yes, God exists...I cried. And I can recall no more....

I do not know whether that blessedness lasts seconds, hours or minutes, yet, take my word, I would not exchange it for all the joys which life can give....

The ictus

Before the GTCS next described, Swedenborg had made only a few references to his "sickness." On one occasion in March 1744, he said he had entreated (from God) a cure for his sickness. Then in April he described, for the first time, an experience involving symptoms of a major seizure, including falling, convulsions, loss of consciousness, and visual and auditory hallucinations. This event completely changed the course of his life.

There came over me a shuddering, so strong from the head downwards and over the whole body with a noise of thunder, and this happened several times...I then fell into a sleep and at about 12:00, 1:00 or 2:00...there came over me a strong shuddering from head to foot, with a thundering noise as if many winds beat together: which shook me: it was indescribable and prostrated me on my face...at that very moment I was wide awake and saw that I was cast down...and I spoke as if I were awake: but found nonetheless that the words were put into my mouth. "And oh! Almighty Jesus Christ, that thou...deigned to come to so great a sinner. Make me worthy of thy grace." I held together my hands, and prayed, and then came forth a hand, which squeezed my hands hard. Straightway...I continued my prayer and said, "Thou hast promised to take to grace all sinners; thou canst nothing else but keep thy word." At

that moment, I sat in his bosom, and saw him face to face; it was a face of holy mien...and he smiled so that I believe that his face had indeed been like this when he lived on earth...he asked if I had a clear bill of health.* I answered, "Lord, thou knowest better than I." "Well, do so," said he....Wakened, with shudderings. [JD51]

Thereafter, Swedenborg fell into a trance during which he concluded: "It was God's own son who came down with this thunder, and prostrated me to the ground...and so, said I, it was Jesus himself" [JD55].

More than 30 years later, when Swedenborg's theology was under attack by various Lutheran Bishops, Swedenborg wrote a letter of protest to the King (16) in which he repeated his claim to a personal mission from God:

That our Saviour visibly revealed Himself before me and commanded me to do what I have done, and what I have still to do and that thereupon He permitted me to have intercourse with angels and spirits, I have declared before the whole of christendom and...before your royal Majesties.

Even more specifically, he had explained earlier,

[I]t has been granted me...to be constantly...in company with spirits and angels, hearing them converse with each other, and conversing with them. Hence it has been permitted me to hear and see things in another life which are astonishing, and which have never before come to the knowledge of any man...I have there been instructed concerning different kinds of spirits, and the state of souls after death—concerning hell, or heaven, or the most happy state of the faithful—and particularly concerning the doctrine of faith which is acknowledged throughout all heaven...(17).

*Bill of Health...a certificate from the proper authorities as to the state of health of a ship's company, at the time of her leaving port (*Webster*, 3rd ed.).

Many years later, in the *Apocalypse Revealed* [531] and also in the *Spiritual Diary* [6108], Swedenborg (18), now in his seventies, again referred to being “suddenly seized with a disease nearly deadly...I was half dead with severe pain. I expected the end. Thus I lay in my bed for three days and a half.” He was living alone in London, but his housekeeper reported that on this occasion as on others he wept bitterly and cried out to the Lord not to forsake him. Asked later about the cause of his lamentation, he said, “Praise God, it is over now!...for whatever happens to me is permitted by the Lord.”

According to biographer Strakhov (19), Dostoevsky suffered “a terrible attack of epilepsy, from which he lay for three or four days almost unconscious.” The similarity between Swedenborg’s 3½-day ordeal and Dostoevsky’s 3- or 4-day ordeal suggests that Swedenborg’s “deadly disease” was also epilepsy, possibly involving multiple seizures or even partial status epilepticus, during those 3½ days. Multiple seizures are not uncommon. Geschwind (20) refers to a patient who “for several days [had] on-going temporal lobe seizures.” In another case, Blumer (21) refers to a patient with CPS who is reported to have had clusters of seizures: “7–8 seizures daily for 2–3 days.” There are other examples of Swedenborg’s probable CPS. In 1744, he wrote in *Journal of Dreams*:

I came into strong shudderings...one [shudder] followed the other, ten or fifteen in number. I waited in expectation of being thrown upon my face...but this did not occur....The shudders all started from below in the body and went up to the head. [JD209]

Later that year, he wrote: “Was long in holy shudders; yet at the same time in a deep sleep...seemed to me as if I was cast upon my face....” [JD228].

And again:

[T]here came upon me again the same kind of giddiness or swoon...so that I appeared to be near death. It came when I saw the light; threw me upon my face; but passed off by degrees; because little periods of sleep came over me. [JD282]

Trance states

In his seizure records (1861-1881), Dostoevsky (22) refers to a “contemplative mood” suggestive of a trance state:

Thoughts fragmentary...dreaminess, pensiveness...In general the aftermath of attacks, i.e. nervousness, shortness of memory, an intensified and foggy so-to-speak contemplative state now continues longer.

Swedenborg's trance states followed dreams, which sometimes followed seizures. Often, he began describing such trance states with the word “Afterwards,” e.g.:

Afterwards, when I was awake...and Afterwards (after a dream) my knees were moved of themselves...

(Dreamed of) how I was in waking trances nearly the whole time... [JD12]

Fell again into such a state that I was in thoughts neither sleeping, nor waking. Thought, what can this be...? [JD55]

[B]etween 3:00 and 4:00 in the morning, I wakened and lay awake but as in a vision... [JD87]

[D]uring the whole night, for about 11 hours, I was neither asleep nor awake, in a strange trance: knew all that I dreamed...the state of this sleep I cannot at all describe... [JD174]

This was in a vision when I was neither waking nor sleeping, but I had all my thoughts together... [JD207]

In 1769, 25 years after his vision of Christ, Swedenborg (23) described a vision that followed the public appearance of his *Brief Exposition of the Doctrine of the New Church*:

When this preliminary treatise was finished, the whole Heaven, from east to west and from south to north, appeared to be covered with beautiful roses of a deep scarlet hue, so that all who were present with me in the world of spirits were astonished at it; this was a sign of the assent and joy of the New Heaven....

Double thoughts

Van Dusen (24) described doubling of thought as “relatively rare: each thought arises with its own opposite and there is opposition.” George Orwell (25) called it “doublethink.” His definition: “...doublethink means the power of holding two contradictory beliefs in one’s mind simultaneously, and accepting both of them....Even in using the word doublethink it is necessary to exercise doublethink.” The distinguished 19th century French epileptologist Dr. Theodore Herpin (26) described the double thoughts of some of his epileptic patients which closely resemble those of Swedenborg:

There are two persons in me, one of which is in possession of reason, and the other—of madness.

It seems that one part of my intelligence witnesses the other’s aberrations.

I hear a conversation. I am agitated by two ideas combatting each other.

Comparable examples of double thought were reported by Swedenborg.

It was wonderful that I could have two thoughts, quite separate, at one and the same time.... [JD69]

Was continually in a fight with double thoughts that battled against each other. [JD 118]

The whole day I was in double thought... [JD121]

In vision it seemed to me as if something were torn asunder in the air. It may perhaps betoken that my double thought should be torn asunder. [JD163]

The following dream combines trance and double thoughts:

During the whole night, for about 11 hours, I was neither asleep nor awake, in a strange trance: knew all that I dreamed....The state of this

sleep I cannot at all describe; but through it my double thoughts were in a manner severed or split asunder. [JD174]

Mental confusion and memory deficits

Memory loss is a frequent aftereffect of epileptic seizures. Rowan and Rosenbaum (27) defined ictal amnesia as “a transient disturbance of memory function which is caused by a seizure (or by its aftereffect), and which has no other clinical manifestation.” They suggested that repeated (but discrete) periods of memory loss are often associated with recurrent seizures. According to Kapur (28), Swedenborg’s mental confusion and memory deficits, so closely associated with epilepsy and its symptoms, can be characterized as transient epileptic amnesia (TEA). The duration of Swedenborg’s memory deficits appears to have been short-range, apparently aftereffects of seizures, and associated with a particular dream or dream state:

Afterwards I wakened and slept again many times...it was all heavenly; clear for me at the time: but afterwards I can explain nothing of it. [JD44]

[D]reamt much, after which I had shiverings, but could not bring any of it to mind, for every time the dreams vanished from me. [JD154–5]

I was dreaming the whole night, though only the smallest fraction of it comes to mind. It was as if I was being taught all night in many things of which I have no recollection. [JD105]

Behavioral correlates

In 1977, Bear and Fedio (29), proposed an association between interictal personality and behavioral traits and TLE. Although the association remains quite controversial, many neurologists accept Geschwind’s argument (30) that “in a very large proportion of patients with temporal lobe epilepsy there is a characteristic constellation of behavioral clinical findings.” Of the 18 possible behavioral correlates cited by Bear and Fedio (29), a cluster of eight appears to be clearly manifest in Swedenborg’s case.

Emotionality— a deepening of all emotions, sustaining intense affect

Describing his experience on that fateful night in 1744, the usually temperate and composed Swedenborg accentuated its emotional significance in *Journal of Dreams* with the heading “April 6–7. N.B. B. N.B” (JD51–56). Before this vision, he had feared that his faith was not strong enough. “I believed and I did not believe....” [JD49]. After the vision, he fell into an exultant trance: “[A]ll was holy...it was Jesus himself....” [JD55]

Elation, euphoria— grandiosity, exhilarated mood

After convincing himself that he had really seen Jesus, Swedenborg (31), highly euphoric, strove to moderate his exhilaration with humility. He was never pretentiously grandiose; he considered himself merely an instrument and “The Servant of the Lord Jesus Christ” (32).

Sense of personal destiny—Events given highly charged, personalized significance: divine guidance ascribed to many features of patient’s life

Swedenborg’s great sense of personal destiny resolved from euphoria to a mood of contentment with his role as servant acting under divine guidance. Two days before he died, in preparation for administration of the rite of communion, Swedenborg (33) declared earnestly to the Pastor: “As truly as you see me before your eyes, so true is everything that I have written.”

Humorlessness, sobriety

According to Benson (34): “The intellectual interests of epileptic patients with postictal behavioral problems tend to be serious, producing a sober, somber, humorless attitude.” There appears to have been little humor and a superabundance of complacent sobriety in Swedenborg’s life. According to Count van Hopken (35), who had known him for more than 40 years, Swedenborg’s predominant and enduring “temper of mind” was one of serenity; he was “always contented, never fretful or morose,” and was generally considered pious, sober, dignified, tranquil, and measured.

Hypermoralism—attention to rules with inability to distinguish significant from minor infractions; desire to punish offenders

As a theologian, Swedenborg was pragmatically moralistic, but we can rule out hypermoralism together with any personal desire to punish offenders; the latter, he believed, was God's province.

Altered sexual interest—loss of libido, hyposexualism, fetishism, transvestism, hypersexual episodes

Although Swedenborg never married, he was far from being hyposexual; rather, entries in Journal of Dreams after his first recorded GTCS indicate hypersexuality.

Lay with one that was by no means pretty, but still I liked her. [JD120]

She with her hand touched my member, and it grew large, larger than it ever had been. I turned round and applied myself; it bent, yet it went in. She said it was long. I thought during the act that a child must come of it; and it succeeded *en merveille*. [JD171]

Still I could not at all...hinder myself from seeking after the sex. [JD200]

Swedenborg interpreted these sexual dreams in symbolic terms [JD286].

Aggression—overt hostility, rage attacks, violent crimes, murder

If, in any sense, Swedenborg could be considered aggressive, it was definitely in his theological writings, as in his *Summary Exposition of the Doctrine of the New Church* (36), in which he bluntly attacked both Catholics and Protestants for their theological errors such as clinging to the polytheistic idea of three gods and the belief in salvation through faith alone.

Sadness—discouragement, tearfulness, self-deprecation; diagnosis of depression, and suicide attempts

On the day before Easter, 1743, Swedenborg awakened and recorded a dream.

Began weeping because I had not loved [God] at all but instead had continually angered him that led me and had shown me the way...to the kingdom of grace; and because I had grown unworthy to be taken to grace. [JD36]

Dostoevsky also experienced periods of depression. His doctor, Yanovsky (37), made frequent references in his *Memoirs* to Dostoevsky's depressions. And in his notebook, Dostoevsky sometimes referred to his postictal "depression" and "objectless...melancholy."

Studies by Blumer (38) indicate that among patients with complex feelings during an epileptic attack "fear was the leading emotion...with depressive mood being the next common." Swedenborg's depression was based on fear of unworthiness. The following self-deprecatory comments appear in the *Journal of Dreams*:

I found myself more unworthy than others and the greatest of sinners. [JD74]

Afterwards I recognized myself as unclean, unclean with filth, from head to foot. [JD85]

Informed by his friend Carl Robsahm (39) of an appalling plot to have Swedenborg declared mentally deranged and confined to a lunatic asylum, Robsahm wrote:

Swedenborg...fell upon his knees in tears and prayed to the Lord asking Him what he should do. He received the comforting assurance that no evil would befall him—as was the case.

Religiosity—holding deep religious beliefs, often idiosyncratic, multiple conversions, mystical states

After he received what he perceived as a mission from God, Swedenborg abandoned science and devoted the rest of his life to his abundant theological writings. These were characteristically idiosyncratic;

indeed, he prophesied the establishment of a new church he had envisioned. Six years after he died, a church based on his teachings was established in London; the New Jerusalem Church (or "New Church") exists today, with branches throughout the world (40).

Hypergraphia—the tendency to write extensively, with a content that is typically religious, philosophical, or cosmic

Swedenborg was a prolific and seemingly inexhaustible writer; e.g., his *Arcana Coelestia* alone consists of more than two million words. He claimed (41) that much of what he wrote was dictated to him by spirits, sometimes viva voce, but often the words came through automatic writing: "Nay I have written entire pages, and the spirits did not dictate the words, but absolutely guided my hand, so that it was they who were doing the writing." He maintained that what the spirits were dictating came from God.

Etiology

The etiology of Swedenborg's TLE is problematic. As with those of St. Paul, Joan of Arc, and other famous historical figures of the past who had epilepsy, a definitive pathologic analysis of the origin of the seizures of Swedenborg remains beyond our reach. Hauser et al. (42) showed that cases with epilepsy in the absence of any history of previous neurologic insult are usually categorized as idiopathic or cryptogenic. No evidence suggests that Swedenborg had access to or would have used behavior-altering drugs. Details of his attacks and the absence of headaches argue against migraine. Swedenborg's seizures, like those of Dostoevsky, occurred almost always at night or in the early morning, so that despite contrary rumors of sickness from a housekeeper and others acquainted with his private life, his health was said to be excellent: his close friend Cuno (43) described him as "a perfect wonder of health," even at age 81 years.

Like Dostoevsky (whom Freud mistakenly diagnosed as an hysteric), Swedenborg was not a hysterical person. Instead, he was a singularly composed, sedate thinker. Woofenden (44) concluded that a mind to all

appearance calm, logical, systematic, and consistently convincing for a period of 28 years, could not have been a victim of “fancy or delusions.”

Fenwick (45) states that “seizures do not occur in a behavioral vacuum.” He emphasizes the abundant evidence that “feelings, thinking, and behavior” are important in the seizure process and that “a true understanding of a patient and his seizures requires both the neurological and the psychiatric points of view.” However, Stevens (46), reviewing the relationships between temporal lobe pathology and psychosis, concludes: “Most patients with epilepsy (including TLE) do not have, or will never develop, schizophrenia-like psychoses.” There is no suggestion that Swedenborg had such a disorder: his lifelong involvement in public affairs as a nobleman, his political contributions as a member of the Diet (e.g., long after he had turned from science to theology, he presented proposals in the House of Nobles concerning Sweden’s trade imbalance and the shocking prevalence of alcoholism in Sweden), his scientific achievements and membership and participation in the Royal Academy of Sciences, and the reasonableness and equanimity with which he conducted his daily life all testify to his judgment and mental balance. Although he died of a stroke at age 84, there is no suggestion of previous ischemic events.

We propose, however, that tremendous emotional stress may have been an exacerbating factor. Fenwick (47) suggested that epileptic seizures may be psychogenic, and Mattson (48) concluded: “Emotional factors can alter the likelihood of seizure occurrence, and they usually increase the frequency of attacks.” Before writing *Journal of Dreams*, Swedenborg had long been at work on an anatomic study of the human brain, with the ultimate purpose (and very high hopes) of finding the substances and seat of the human soul in the cortex, thereby revealing God’s link to man. The fervor with which he approached this critical work is evident in the prologue to *Regnum Animale* (49):

I...am determined to allow myself no respite until I have run through the whole field to the very goal—until I have traversed the universal animal kingdom, to the soul. Thus I hope, that by bending my course inwards continually, I shall open all the doors that lead to her, and at length contemplate the soul herself: by the divine permission.

Although he made important original physiological discoveries concerning the structure and function of the brain (50), perhaps Swedenborg's failure as a scientist to identify the seat of the soul in the brain resulted in a disappointment so shattering to him that it precipitated a psychoemotional crisis. Thereafter, he turned away from his brilliant and highly successful lifelong scientific career and began to experience and record his extraordinary dreams and seizures, during one of which he established his own personal link with God when he saw and spoke with Jesus and received what he absolutely believed to be his mission. This was the turning point in his life. Swedenborg (51) denied that his visions were "phantasms," his word for hallucinations. His "revelations," he believed, came to him as a result of "a suspension of bodily sensations" during which he received "angelic wisdom...by influx from above into the spiritual parts of his mind."

An evaluation of Swedenborg as a person with epilepsy does not devalue his achievements. Instead it places him in the remarkable group of eminent, creative humans who had the same neurological illness. Serene in his role as servant of the Lord, Swedenborg was immune to the many "poisoned arrows" his contemporaries aimed at his character and his writings. Perhaps he (52) meant to speak to future generations when he responded to one slanderer of his last work, *Vera Christiana Religio*:

Read, if you please, what has been written...and afterward draw your own conclusion—but from reason—concerning my revelation.

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