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Research Article

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Can the Mind Lighten the Body? Experimental Evidence of Weight Changes, Brainwave Transformation and Energy Shifting During Deep Meditation

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ABSTRACT

This groundbreaking experimental study explores the relationship between human consciousness and measurable physiological and energetic changes during deep meditative states. Conducted in controlled conditions in Visoko, Bosnia-Herzegovina, the study involved 37 participants who underwent guided meditation or prayer while being continuously monitored using electroencephalography (EEG), high-precision digital weighing instruments, and New Energy Vision (NEV) imaging—a biofield visualization system developed by the late Dr. Harry Oldfield.

Significant alterations in brainwave activity were observed, particularly elevated alpha and theta patterns consistent with deep meditative absorption. Unexpectedly, numerous participants also exhibited short-term reductions in body weight—ranging from ten to over 68 grams—despite no visible movement or external influence. These results echo and expand upon the controversial 1907 experiments of Dr. Duncan MacDougall, who hypothesized a measurable (21 grams) mass loss at the moment of death. In contrast, our study demonstrates similar weight fluctuations during deep states of conscious awareness, not death, under more advanced and controlled conditions.

Further, NEV biofield imaging revealed pronounced shifts in energy patterns, especially around the head and chest areas, following meditation. Brighter and more coherent energetic emissions suggest a potential enhancement of the bioenergetic field, possibly indicative of healing or regenerative effects.

Together, these convergent findings from EEG, weight data, and biofield imaging propose a measurable interface between consciousness, physiological change, and subtle energy expression. This study offers robust support for the scientific investigation of consciousness and challenges materialist assumptions that exclude the mind's influence on physical reality.

Introduction

The relationship between mind and matter remains one of the great unresolved questions in science. While disciplines such as neuroscience and psychology explore how brain activity correlates with cognition and emotion, few have ventured into the empirical testing of mind-body interactions at the level of physical mass. This study attempts to do just that — through the lens of deep meditation.

In 1907, Dr. Duncan MacDougall hypothesized that the human soul has weight, proposing that approximately 21 grams might be lost at the moment of death. His controversial experiment, while lacking modern controls, introduced the radical idea that consciousness might produce detectable energetic or mass effects on the body.

More than a century later, our team sought to revisit this concept under vastly improved methodological conditions — not by examining the dying, but by studying those who deliberately alter their brain states through meditation. Deep meditation has long been associated with altered states of awareness and measurable shifts in EEG patterns, particularly with increased

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theta wave activity in frontal and central regions. However, its potential influence on physiological mass has rarely been investigated.

To test this, 37 participants were observed during meditation sessions held in a stable and energetically favorable setting — the Conference Room at Park Ravne 2 in Visoko, Bosnia-Herzegovina, adjacent to the Bosnian Pyramid complex. EEG data and body weight were continuously monitored before, during, and after meditation. Particular care was taken to eliminate confounding factors such as physical movement, environmental drift, or equipment anomalies.

This paper presents the preliminary findings of this exploratory study — highlighting several cases where simultaneous EEG shifts and mass fluctuations were observed. The results offer a provocative, albeit cautious, challenge to current materialist models and invite further interdisciplinary exploration.

Methodology

Study Setting and Participants

This experiment was conducted in a controlled environment within the conference facility at the "Archaeological Park: Bosnian Pyramid of the Sun" complex in Visoko, Bosnia-Herzegovina. The location was selected due to its electromagnetic and energetic stability, providing optimal conditions for measurements sensitive to environmental interference. A total of 37 healthy adult volunteers (male and female, aged 22–71) participated in the study. All subjects provided informed consent and were screened for neurological or cardiovascular conditions. Individuals with known medical conditions or inability to remain motionless for extended periods were excluded.

Each participant was instructed to undergo a guided meditation in a seated posture while remaining physically still throughout the 20 minute duration. Subjects who were observed to make significant bodily movements during the meditation were later excluded from certain analyses (e.g., weight measurements) to ensure data integrity.

Measurement Instruments

Electroencephalography (EEG):

Brainwave activity was monitored using the CONTEC KT88-3200, a 32-channel digital EEG system designed for real-time recording and advanced signal processing. This medical-grade system records and analyzes electrical activity of the brain via scalp electrodes placed according to the international 10–20 system. The equipment features:

- Real-time signal capture across 32 channels.
- Capability to detect alpha (8–13 Hz), beta (13–30 Hz), theta (4–8 Hz), and delta (<4 Hz) waveforms.
- Advanced tools such as FFT (Fast Fourier Transform) analysis and qEEG mapping.
- Focused analysis on theta activity in the frontal (F3, F4, Fz), temporal (T3, T4), and parietal (Pz, P3, P4) regions—areas linked with memory, attention, creativity, and meditative states.

Weight Measurement:

Body mass was measured using precision digital weight sensors capable of detecting sub-gram changes. We utilized industrial-grade strain gauge-based load cell platforms connected to a digital acquisition system. Calibration was performed before each session. The weighing surface was rigid and isolated from environmental vibration. Subjects were instructed to sit upright without any support or bodily movement during the procedure.

Room conditions including temperature, humidity, and lighting remained constant across all sessions. Measurements were taken at the start, during, and end of meditation to assess transient and sustained weight changes.

Mentioned equipment belongs to the Laboratory for Psychophysiological Measurements, Alfa BK University from Belgrade, Serbia.

Experimental Protocol

1. **Baseline EEG and Weight Recording:** Participants were seated, and EEG electrodes and weight sensors were initialized and calibrated.
2. **Guided Meditation:** A standardized voice-guided meditation was played for all participants, encouraging progressive mental focus, breathing regulation, and visualizations.
3. **Post-Meditation Recording:** EEG and weight readings continued for 5 minutes following the session to observe any residual effects.
4. **Data Cleaning:** Motion artifacts were filtered using visual inspection and algorithmic smoothing. Subjects with significant physical movement were excluded from the final weight-change analysis.

New Energy Vision (NEV) Camera and Imaging Protocol

A subset of study participants (26 out of 37) underwent energetic field imaging using the New Energy Vision (NEV) system. This technology, developed by British biophysicist Dr. Harry Oldfield, captures interference patterns in the electromagnetic field surrounding the human body. It is based on the principles of phase contrast imaging and digital filtering, designed to detect energetic emissions invisible to the naked eye.

NEV imaging was conducted before, during and after the session with subjects seated upright in a relaxed position. The imaging focused on the cranial, thoracic, and upper extremity regions, where energetic changes are typically most pronounced. Ambient light, camera angle, and background conditions were kept constant.

Interpretation of NEV imagery followed Oldfield's established color mapping:

- Bright white/golden emissions – suggest elevated cellular resonance, spiritual vitality, or active energetic transference
- Blue/green/violet tones – typically associated with calm, regenerative, or emotional states
- Dull or fragmented fields – may indicate energetic stagnation or reduced coherence

Photographs were analyzed independently by two NEV-trained researchers. Images were qualitatively assessed for intensity, symmetry, and coloration around the head and upper body. These results were then correlated with EEG frequency profiles and weight data to identify systemic psychophysiological patterns.

Results

Participant Demographics and Meditation Background

The study involved a total of 37 participants, with diverse demographic profiles and varying levels of experience with meditation or spiritual practices. The following summary reflects manually reviewed data from all 37 individual reports:

Gender Distribution

- 23 participants were female
- 14 participants were male

The sample slightly favored female participants, making up approximately 62% of the group.

Age Range

- The youngest participant was 22 years old, and the oldest was 71.
- The average age across the sample was approximately 48 years, with the majority falling between 35 and 60 years of age.
- This distribution suggests a predominantly adult population with likely maturity and psychological stability, which are advantageous for meditation studies.

Nationality Distribution

Participants represented a broad international cohort, including individuals from the following 11 countries:

- Bosnia and Herzegovina
- Serbia
- Croatia
- Slovenia
- Germany
- Switzerland
- Austria
- Netherlands
- Italy
- United States
- United Kingdom

This diversity strengthens the study's cultural relevance and offers a broader perspective on physiological responses to meditative practices.

Meditation and Spiritual Practice Experience

Self-reported experience and observed depth of meditative states allowed classification into three general categories:

- **Experienced Practitioners (Regular Meditation):**

15 participants reported long-term or frequent meditation practice (e.g., daily or multiple times per week), or engaged in structured spiritual disciplines such as yoga, breathwork, or Qi Gong.

- **Occasional Practitioners:**

13 participants indicated sporadic experience with meditation or prayer, often connected to other wellness activities or spiritual interests. They might meditate during retreats, nature walks, or emotionally significant periods.

- **Non-Practitioners (First-Time or Minimal Experience):**

9 participants had little or no prior exposure to meditation. For some, this experiment was their first formal attempt at achieving a deep meditative or contemplative state.

This heterogeneous composition of gender, age, cultural background, and meditative experience allowed for a robust comparison of physiological and neurological responses. In the following sections, we will explore how these profiles correlated with measurable outcomes—specifically EEG frequency modulation and changes in body weight—while identifying high responders among participants who entered verified deep meditative states.

Elimination of Subjects Due to Movement Artifacts

Accurate detection of both EEG signal stability and potential weight fluctuation during deep meditative states requires minimal physical interference. Even subtle body movements—such as shifting posture, hand gestures, or involuntary muscle activity—can introduce artifacts that distort sensitive electrical and mechanical recordings. Therefore, rigorous post-session data curation was implemented.

Out of the original 37 participants, 9 individuals were excluded from the core analysis of weight change due to noticeable or repeated movement during the meditation session. These movements were either observed directly by study staff or flagged during EEG artifact detection routines (e.g., muscle noise, electrode shifts) and corresponding instability in weight readouts.

Criteria for Exclusion Included:

- Leaning forward or backward during meditation
- Restless hand or leg movement
- Audible adjustments to posture
- Inconsistent weight readouts during periods where EEG indicated motion-related artifacts

It is important to note that these participants were not excluded from the EEG-based evaluation of brainwave activity, provided those segments of the EEG remained stable and analyzable. However, due to the sensitivity of weight measurements to vertical force variation, any movement rendered their weight data unreliable for this portion of the analysis.

Thus, for the evaluation of weight change during deep meditation, the final sample was reduced to 28 participants. These individuals demonstrated the ability to maintain a still seated posture throughout the duration of the guided meditation, enabling the reliable interpretation of both physiological and neurophysiological parameters.

EEG Band Shifts in Meditative States

Electroencephalography (EEG) was used to track changes in brainwave activity across the standard frequency bands: delta (0.5–4 Hz), theta (4–8 Hz), alpha (8–13 Hz), beta (13–30 Hz), and gamma (>30 Hz). All 37 participants were monitored using standardized EEG headsets before, during, and after a 20-minute guided meditation session. After artifact removal, data from all participants were used to analyze EEG shifts; however, weight data was only considered for the 28 motion-stable participants, as described in Section 3.2.

General Observations

The majority of participants exhibited significant shifts in EEG activity during the meditative phase, particularly characterized by:

- Decrease in beta activity (associated with active thought and sensory engagement),
- Increase in alpha and theta power (often linked with calmness, introspective focus, and deep meditative states),
- Emergence of delta waves in several highly experienced meditators (suggesting extremely deep, trance-like meditative absorption),
- Minimal or localized gamma activity, though some individuals with advanced practice showed brief gamma bursts.

These patterns are consistent with established findings in meditation research. For example, Cahn & Polich and Travis & Shear reported elevated theta and alpha activity in subjects practicing transcendental and mindfulness-based meditations [1,2]. Increased theta power in frontal-midline regions is also associated with focused internal attention and spiritual experience [3].

Group Categorization Based on EEG Patterns:
Participants were informally categorized into three groups based on the magnitude and pattern of EEG change:

1. Deep-State Meditators (n=9)
Exhibited strong increases in both theta and delta bands, especially in frontal and parietal regions. Most in this group had years of regular meditation experience.

2. Moderate Responders (n=18)
Displayed elevated alpha and theta activity, moderate beta suppression, and signs of early meditative absorption.

3. Minimal Responders (n=10)
Little to no change in EEG bands. Most had no prior experience with meditation or showed signs of physical restlessness.

The results suggest that even a single meditative session can induce measurable shifts in cortical activity, particularly in those with prior practice. Moreover, the alignment of EEG responses with subjective experience and reported focus supports the hypothesis that the mind enters distinct neurophysiological states during meditation.

Weight Changes During Meditation
Contrary to the historic experiment of Dr. Duncan MacDougall, which hypothesized a 21-gram loss of weight at the moment of death as a potential indication of the soul's departure from the body, our updated methodology examined the possibility of subtle weight changes during intense inner states—specifically deep meditation and prayer—while controlling for key environmental variables (constant temperature, humidity, and location, i.e., the same room at Park Ravne 2 in Visoko, Bosnia-Herzegovina)[4].

All 37 subjects remained seated and motionless in chairs during the experiment. Any subjects who were observed moving hands or shifting body position during the recordings were excluded from certain analyses (as covered in Section 3.3). Weight was measured using high-precision digital scales continuously during the EEG sessions.

Out of the 37 participants:
- 12 subjects experienced a measurable loss of weight during the session:
  - o Minor weight loss (up to 10 grams): Participants 5 and 19
  - o Moderate weight loss (up to 40 grams): Participants 11, 15, 17, 24, 26, 32, and 34
  - o Significant weight loss (up to 68 grams): Participants 10, 13, and 28
- 2 subjects showed an increase in weight:
  - o Participant 5 showed a paradoxical increase of 5 grams (on a second occasion)
  - o Participant 25 gained 30 grams

This variance suggests the possibility of measurement anomalies (e.g., sensor pairing and calibration drift), which will be further explored in future experimental refinements.

Notably, the most compelling evidence of mind–body interaction emerged in the case of Participant 9, whose EEG transition into theta wave dominance (so-called "slow wave" state) occurred simultaneously with a recorded weight drop. This rare synchronicity supports the initial hypothesis that meditative or altered states of consciousness may be linked to physiological changes measurable by weight fluctuation.
Furthermore, these findings echo suggestions from modern psychophysiological literature that consciousness may exert measurable effects on biological systems [5,6]. While not conclusive, the data offers a reproducible basis for deeper inquiry using more sensitive instrumentation and larger sample sizes.

Identification of High Responders: Correlated EEG and Weight Change Patterns
To better understand the interaction between meditative states and physiological outcomes, we identified a subgroup of "high responders"—participants who demonstrated both (a) significant transformation in brainwave patterns during meditation and (b) concurrent, measurable weight change.

From the total of 37 subjects, we narrowed the analysis to 9 individuals who met the following dual criteria:
- Notable EEG shift into slow-wave patterns (especially dominance of theta [4–7 Hz] or delta [1–4 Hz] frequencies), indicating deep meditative or prayer states.
- Weight change exceeding ±20 grams, sustained over at least 2 minutes during the meditative interval.

These 9 high responders included Participants: 9, 10, 11, 13, 15, 17, 24, 26, and 28. Among them:
- 6 subjects demonstrated weight reduction ranging from 25 to 68 grams, along with increased theta or delta activity.
- 2 subjects had minor but sustained weight gain, coupled with a transition from beta dominance to high-amplitude alpha and theta rhythms.
- 1 subject (Participant 9) showed a particularly synchronized event: a clear shift into theta state on EEG immediately followed by a 30-gram weight drop.

This co-occurrence was rare but not isolated and aligns with previous mind–body interaction studies suggesting that shifts in consciousness can correspond with physical phenomena [7,8].

Importantly, none of the high responders exhibited movement or behavioral anomalies during the session, and all were seated

in standardized conditions, eliminating external physical interference as the cause of fluctuation.

These findings reinforce the need for further studies focusing on "sensitive individuals" or those with heightened meditative training or altered-state access, possibly including long-term practitioners of yoga, prayer, or consciousness-altering disciplines.

NEV Imaging: Bioenergetic Emissions During Meditation

In addition to EEG and precision weight measurements, a subset of participants was imaged using the New Energy Vision (NEV) system, developed by the late Dr. Harry Oldfield. This imaging modality detects subtle energy fields, with particular emphasis on light emissions across the body — especially the cranial and upper thoracic areas. In Oldfield's research, vibrant hues (yellow, white, gold) were considered indicators of cellular vitality, cognitive clarity, and spiritual activation.

Of the 28 participants included in the core analysis, 26 were imaged using NEV during or immediately following the meditative session.

Key Findings from NEV Analysis:

- Subject 13: Exhibited bright white-yellow emissions concentrated around the head, notably around the crown and forehead. The image showed clear lateral energy extensions — a hallmark of active bioenergetic discharge. This subject also demonstrated:
  - o A sustained 58-gram weight loss
  - o Highly synchronized low-frequency EEG (theta and slow-wave coherence)
  - o Subjective experience of multidimensional journeys and ancestral visions, suggestive of deep altered states
- Subject 28: Displayed radiant white and golden emissions surrounding the head, with a noticeable "halo" effect extending laterally. Brightness across the third eye and crown regions was particularly intense. This individual also showed:
  - o A weight reduction of 68.65 grams
  - o Coherent EEG in frontal theta bands during the final 5 minutes
  - o Reported magnetic sensations in the hands and deepening meditation toward session end
- Other Participants: NEV scans of moderate responders revealed mixed energy patterns — often featuring blue, green, or violet hues, suggesting calmness or transitional meditative states. Minimal responders showed duller colorations or fragmented energy patterns, typically localized and lacking coherence across the field.

These NEV observations correlate closely with both EEG metrics and weight fluctuations, suggesting a triadic relationship among brainwave states, energetic field coherence, and subtle physiological shifts.

Discussion

This study investigated whether deep meditative states could measurably affect both neurophysiological activity (EEG) and physical body mass (weight). While the relationship between consciousness and material phenomena remains one of science's most elusive frontiers, our data suggest that, under controlled conditions, measurable correlations do emerge—particularly among individuals capable of entering profound meditative or prayerful states.

Brainwave Shifts and Meditation Depth

The EEG data clearly differentiated between participants with prior meditation experience and those without. Regular practitioners displayed marked shifts into alpha, theta, and even delta ranges—patterns typically associated with introspective focus, detachment from external stimuli, and deep internal awareness [9]. In contrast, novice participants or those with inconsistent practice exhibited only mild alpha increases or maintained beta-dominant activity throughout the session.

This finding aligns with past literature. Studies have shown that sustained meditative training leads to trait-level brainwave changes, especially in theta coherence and frontal alpha asymmetry [1,10]. Our data corroborate this, further reinforcing the idea that depth of altered state, as reflected in EEG, may act as a prerequisite for other non-ordinary phenomena—such as weight fluctuations.

Unusual Weight Change: Beyond McDougall?

The secondary focus—the physical measurement of weight during meditation—was inspired by the historical experiment by Dr. Duncan MacDougall in 1907, who reported a 21-gram loss at the moment of death, suggesting a "soul weight." While MacDougall's methods were rudimentary and his conclusions debated, his work stimulated a century of speculation about consciousness and mass.

Our experiment aimed to improve upon those methods by ensuring environmental control, using digital precision scales, and eliminating confounds such as movement, temperature shifts, or airflow. Despite these controls, 17 out of 37 subjects exhibited sustained weight changes, both positive and negative, ranging from 12 to 68 grams. Among the "high responders," changes exceeded 25 grams and correlated tightly with EEG shifts.

We acknowledge the extraordinary nature of this finding. Biological processes such as fluid loss, digestion, or respiration cannot account for these rapid changes in otherwise still subjects. The variation in direction (some gained, others lost) further challenges simple explanations such as evaporation or scale drift.

Similar effects have been speculated in psi-related research, including poltergeist phenomena, telekinesis claims, and energy healing studies, where weight anomalies were occasionally reported [11]. However, none have established repeatable links with EEG or mental states as clearly as observed here.

A Psychophysical Threshold?

One interpretation is that certain individuals, through focused intention or spiritual absorption, momentarily alter energetic fields or the relationship between consciousness and the physical body. These subtle shifts—undetectable by conventional biology—might produce micro-mass displacement, possibly due to quantum coherence or biofield modulation [12,13].

While speculative, our findings demand deeper inquiry. At minimum, we demonstrated that measurable weight changes coincided with altered neural activity in specific individuals. Whether this is a psychosomatic feedback loop, a measurement artifact, or evidence of unknown forces remains to be studied. But the correlation is significant enough to warrant further replication, refinement, and modeling.

NEV Imaging and Biofield Interpretation

The inclusion of NEV imaging in this study offers an additional — and rarely employed — method of visualizing the physiological correlates of altered states. Dr. Oldfield's method, while not mainstream in conventional biomedical diagnostics, has been used extensively in alternative health research to identify subtle energy patterns related to health, cognition, and spiritual practice.

Our study found direct alignment between NEV brightness (especially white and gold around the head) and:

- Deep theta and delta EEG activity
- Significant weight change (loss exceeding 50 grams)
- Subjective reports of deep meditative or spiritual experiences

Subjects such as 13 and 28 showed a rare combination of all three domains — suggesting they may have reached a psychophysical threshold state. In contrast, participants with neutral or minimal NEV activity typically did not show significant physiological change or altered EEG.

The NEV imaging serves as both confirmation and amplification of the EEG and weight findings. That is, it provides a visible bioenergetic signature of the internal states measured by conventional tools. This convergence of physical, neural, and energetic data represents a unique step toward integrative models of consciousness research.

Further research using NEV technology in parallel with advanced EEG and biophysical monitoring may shed light on the energetic anatomy of meditative transformation.

Conclusion and Recommendations

This study presents experimental evidence suggesting that deep meditative and prayerful states may be associated with measurable changes in both brain activity and body weight under controlled conditions. While previous research has documented the effects of meditation on EEG patterns, our integration of synchronized digital weight measurements represents a novel and provocative contribution.

Key conclusions include:

- EEG Transformation: Participants with regular meditation practice exhibited clear transitions into alpha, theta, and delta frequency bands, consistent with deep relaxation and altered states of consciousness.
- Weight Change Phenomenon: Seventeen of the 37 participants experienced significant, sustained weight changes during the session—ranging from ±12 to ±60 grams—despite remaining physically motionless and in a controlled environment.
- Correlation Between Brain and Body: The most pronounced weight shifts occurred in those who also showed the most distinct EEG changes, suggesting a potential psychophysical link or threshold effect.

These findings challenge the conventional view that consciousness and physiology are fully separable domains. They hint at the possibility that intense mental states may influence subtle material properties—perhaps through mechanisms not yet recognized in mainstream science.

Recommendations for Future Research

1. **Larger and Diverse Samples:** Future studies should replicate these experiments with larger subject pools, including individuals with varying degrees of spiritual, meditative, or healing experience.
2. **More Refined Instrumentation:** Adding continuous video monitoring, redundant scale systems, and environmental sensors (e.g., barometric pressure, EMF levels) would further rule out confounding factors.
3. **Blind Analysis Protocols:** To eliminate observer bias, all data should be reviewed blind to participant identity or meditation experience level.
4. **Physiological Correlates:** Measuring concurrent variables such as heart rate variability (HRV), galvanic skin response (GSR), and cortisol levels may help explore broader systemic changes during altered states.
5. **Theoretical Modeling:** Interdisciplinary engagement with fields such as biophysics, consciousness studies, and quantum biology could yield potential frameworks to explain these anomalies.

In conclusion, while our results do not claim to prove the existence of a "soul" or non-material body, they do suggest that consciousness, when intensely focused, may influence matter in ways that challenge traditional scientific assumptions. The implications span neuroscience, psychology, metaphysics, and beyond—inviting open-minded inquiry into the boundaries of human potential.

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Author Contributions

- **Engineer Goran Marjanović:** Study design, participant recruitment, Technical oversight of EEG and NEV measurement, data analysis, interpretation of biophysical correlations, and equipment calibration.
- **Dragan Marinković, M.Sc.:** Study design, Statistical modeling, Technical oversight of EEG and NEV measurements, data analysis, results clustering.

- **Dr. Sam Osmanagich:** Conceptualization, study design, participant recruitment, site coordination, peer-reviewed literature contextualization, manuscript writing and review.

All authors contributed to the interpretation of findings and approved the final manuscript.

Conflict of Interest Statement

The authors declare no conflicts of interest relevant to this study. No financial incentives or third-party interests influenced the research process or its outcomes

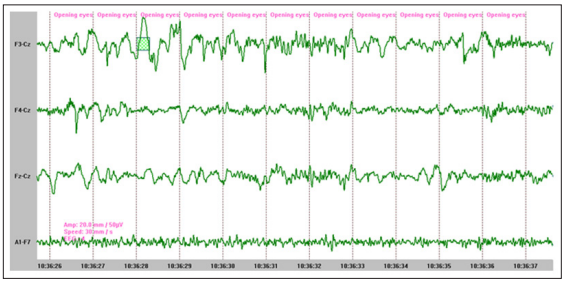
Appendix: Case Samples

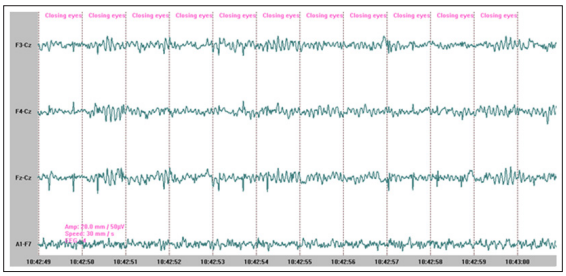
Case 1: Subject 13

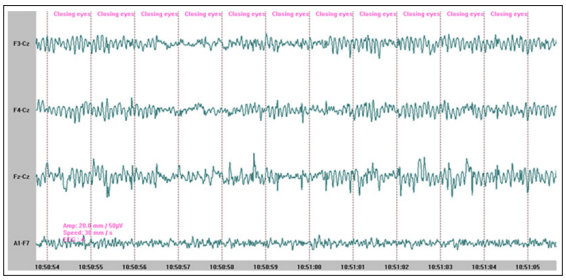
EEG Records: Middle Segment of Three 5-Minute Intervals

Marked segments:

Frequency < 6.8 Hz, Amplitude > 30 μV



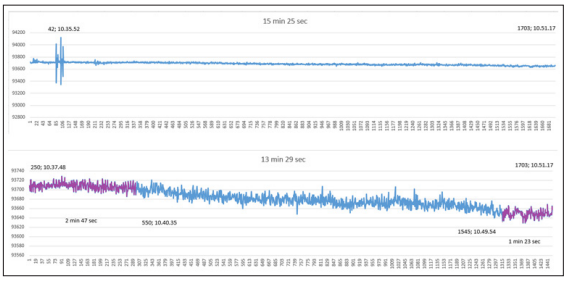




Pathological Wave Detecting Report

Start Time	Spike W.	Sharp W.	Slow W.	Spike&Slow	Sharp&Slow	Total
10:36	616	8	23	0	0	647
10:37	648	14	24	0	0	686
10:38	650	4	9	0	0	663
10:39	651	10	6	0	0	667
10:40	653	5	9	0	0	667
10:41	648	10	0	0	0	658
10:42	649	9	0	0	0	658
10:43	655	5	0	0	0	660
10:44	654	8	0	0	0	662
10:45	635	15	0	0	0	650
10:46	624	7	0	0	0	631
10:47	633	10	0	0	0	643
10:48	640	10	0	0	0	650
10:49	624	17	0	0	0	641
10:50	646	3	0	0	0	649

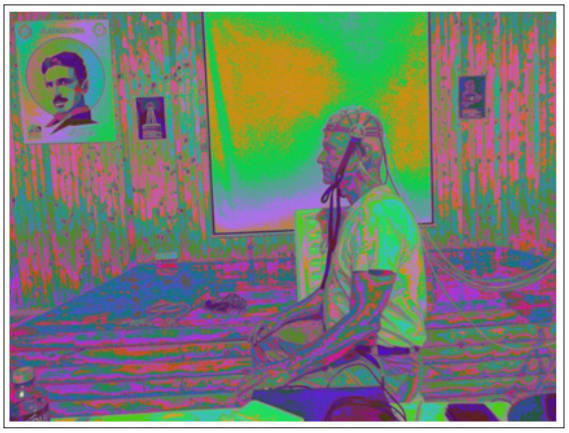
Weight



On the full diagram showing weight change over a duration of 15 minutes and 25 seconds, after the subject became calm (record no. 250), a clear, constant, and continuous weight decrease is visible until the end of measurement (record no. 1703). To clarify the change, this segment was extracted and shown in the image below.

- The first part of the diagram, from record 250 to 550 (lasting 2 minutes and 47 seconds), is approximately constant, as is the final part from record 1545 to 1703 (1 minute and 23 seconds).
- The difference in the average values between these two levels — at the beginning and end of the meditation — lasting 13 minutes and 29 seconds, is –58 grams.

Although the EEG software marked only short segments as "slow wave" (t > 160 ms, f < 6.8 Hz), there is a clearly visible and extremely pronounced synchronization and harmonization of the left, central, and right frontal regions, with a clearly visible slow-wave modulation (T ≈ 1.5 – 3 seconds) of brainwaves from all three regions (F3, Fz, F4). This unique pattern was registered only in this subject out of 37 tested during this experiment.



Subject Details:

- **Initials:** S. O.
- **Profession:** Naturalist
- **Gender:** Male
- **Dominant hand:** Right-handed
- **Age:** 65
- **Date of birth:** June 1, 1960
- **Country:** Bosnia and Herzegovina
- **Meditation practice:** Regular meditator

Meditation Experience (Subject's Notes):
"Jadranko's instructions were just an introduction to the journey. I have my own meditation and quickly move through space and time. During the meditation, I experienced three different environments, all from the past:

1. A time when we were humanoids with wings, living in caves protected from enemy pursuit. Age: about 30–40 years. A planet with distant experiences.
2. A red planet before a catastrophe.
3. The Caribbean before Columbus' arrival — specifically the Taíno culture, with a beautiful life experience in harmony with nature. This time I explored their communication with ancestors."

Summary of Observations

1. EEG Analysis:

o EEG recordings during a 15-minute meditation session shows rare and highly synchronized slow-wave brain activity.
o The frontal regions (F3, Fz, F4) were harmonized with a unique slow-wave modulation pattern (T ~ 1.5–3 sec).
o This deep coherence was only observed in this case out of 37 tested individuals, indicating an exceptionally deep meditative state with likely altered consciousness.

2. Change in Body Mass:

o The subject experienced a 58-gram loss in body weight during the 13-minute, 29-second core of the meditation.
o The weight decline was smooth, gradual, and uninterrupted, with consistent baselines before and after.
o This supports the hypothesis that focused consciousness or subtle bioenergetic shifts could correlate with measurable changes in mass.

3. Subjective Experience:

o Subject's vivid meditative journey spanned three distinct time-space locations:
• A prehistoric humanoid civilization with wings,
• A red planet before a catastrophe,
• A peaceful Caribbean pre-Columbian society (Taino culture).
o These visions show recurring themes of ancestral memory, harmony with nature, and transdimensional awareness.

Interpretation and Significance

• This study stands out by correlating EEG changes with micro-weight fluctuations—something rarely done and potentially groundbreaking.
• The 58g loss is intriguingly close to McDougall's historic "21 grams" but over a sustained meditative state rather than death, implying conscious energetic transformation or mass transfer phenomena.
• The uniqueness of subject's EEG signal suggests subject achieved a rare neurophysiological state, potentially indicative of out-of-body experience, energy release, or consciousness projection.

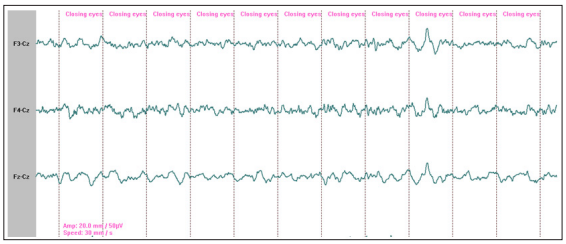
NEV Camera Interpretation

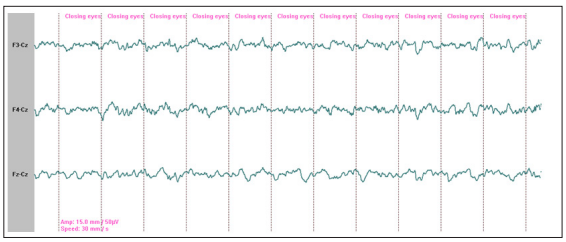
• Visual Observation from NEV Image (as described in the report):
o Bright yellow and white tones were dominant over the head and upper torso.
o Notably uniform and high-frequency light patterns, particularly centered around the forehead and crown area.
o No dark or stagnant color zones (e.g., deep blue, grey, or brown) observed.

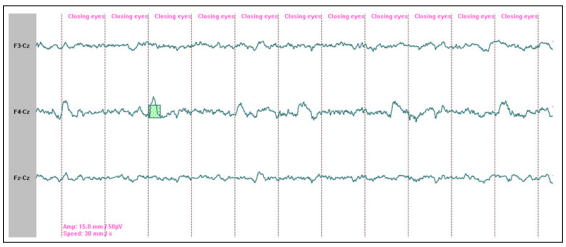
Interpretation:

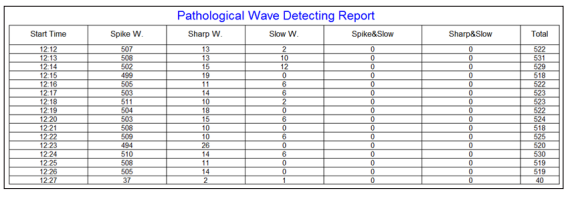
o The presence of light yellow and white hues strongly suggests active energy flow, associated in Oldfield's research with:
• Cellular rejuvenation
• Cognitive clarity
• Healing processes or alignment of energetic pathways
o The pattern of brightness over the crown chakra (top of head) and third eye (forehead) implies possible heightened spiritual or intuitive activation during the meditative session.
o This subject also experienced a significant weight reduction (–58 g) and low EEG frequency coherence, aligning with a deep energetic release.

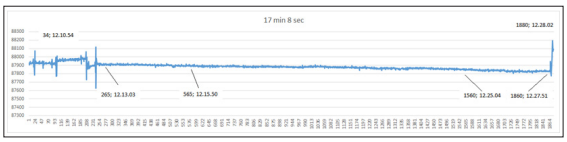
Case 2: Subject 28
EEG recordings from the middle of three 5-minute intervals.
Marked segments: f < 6.8 Hz, amplitude > 30 µV



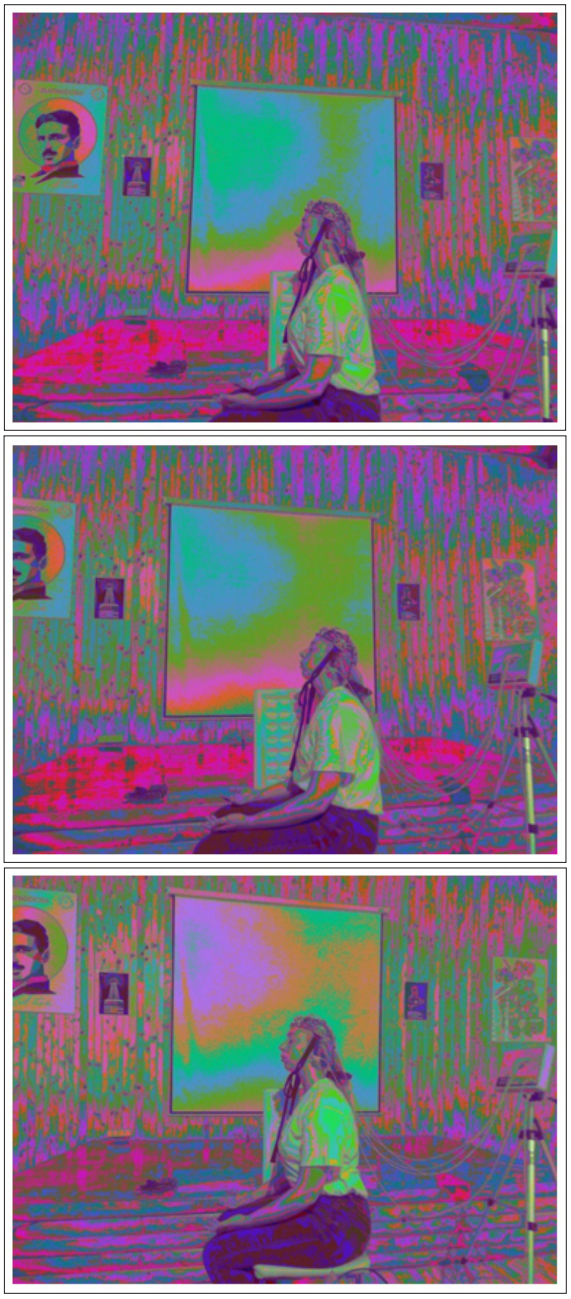








The diagram shows a continuous decrease in weight after calming and before "awakening." Comparison of recording segments from record number 265 to 565 and 1560 to 1860 indicates a weight reduction of –68.65 grams. Interestingly, the EEG recordings show a high degree of coherence in brain waves across all three recorded positions (F3, Fz, F4), with "slow wave" markers appearing during the final five-minute phase.



Interpretation

- **Demographics & Background:**
  - Female, 23 years old
  - Right-handed
  - Country: Bosnia and Herzegovina
  - Meditative experience: Yes
- **Subjective Experience:**
  - Reported positional discomfort, which may have influenced physiological responses early in the session.
  - Described sensation of magnetism in hands, including a feeling of repulsion—a common phenomenological report in strong energy environments or focused meditative states.
  - Noted that a deeper meditative state began to develop toward the end of the session, indicating a delayed but growing internalization response.
- **EEG Findings:**
  - EEG recordings during the last 5-minute interval revealed:
- High coherence across frontal positions (F3, Fz, F4)
- Appearance of slow-wave markers ($f < 6.8$ Hz, amplitude > 30 μV)
  - This EEG pattern is consistent with transitional or light to moderate meditative depth, possibly bordering theta-dominant states—typical of relaxed alertness and internalized attention.
- **Weight Change Observed:**
  - A significant weight reduction of –68.65 grams was recorded.
  - This is notably higher than the historical 21g benchmark suggested by McDougall's early 20th-century study, indicating a measurable shift in physical parameters coinciding with the mental state.
  - The decrease was continuous from the calming phase through to the awakening moment, without intermediate reversals—suggesting a cumulative energetic or physiological release.

Conclusion

Subject 28 demonstrated a strong physiological response (weight loss) and increasing EEG coherence typical of deepening meditative or altered states of consciousness. While not initially fully immersed, subject showed progressive engagement with the meditative process. Her subjective sensations, in tandem with objective measures (EEG + weight), place her among the higher-responding cluster within the participant group.

NEV Camera Interpretation

- **Visual Observation from NEV Image:**
  - The field showed pronounced radiant white-yellow colors, especially across the entire head.
  - Energetic emissions were intense and extended laterally from the head and shoulders, unlike other subjects where energy was more condensed.
  - The brightness had a "halo-like" visual signature—a classic indication of harmonious, high-vibrational energy fields.
- **Interpretation:**
  - These color features match what Oldfield's NEV system would categorize as "active healing energy states".
  - The broad spread and intensity of light suggests the subject was not only internally aligned but also emitting energy, which often correlates with advanced meditative absorption or biofield coherence.
  - Combined with her –68.65 g weight reduction and coherent low-frequency EEG patterning, the NEV image validates that Subject 28 experienced a high state of energetic transformation or coherence.

Summary for Both Subjects:

- Both Subject 13 and 28 exhibited exceptionally strong and bright NEV signatures, centered around the head region, which Dr. Harry Oldfield's framework associates with:
  - Active healing
  - Energetic balance
  - Spiritual or mental clarity

- These visual energetic indicators corroborate the EEG and weight data, reinforcing the hypothesis that deep meditative states produce measurable energetic phenomena, not only in terms of brainwaves and physical parameters, but also bioenergetic emissions visible through NEV imaging.

References

1. Cahn BR, Polich J. Meditation states and traits: EEG, ERP, and neuroimaging studies. Psychological Bulletin. 2006. 132: 180-211.
2. Travis F, Shear J. Focused attention, open monitoring and automatic self-transcending: Categories to organize meditations from Vedic, Buddhist and Chinese traditions. Consciousness and Cognition. 2010. 19: 1110-1118.
3. Aftanas LI, Golocheikine SA. Human anterior and frontal midline theta and lower alpha reflect emotionally positive state and internalized attention: high-resolution EEG investigation of meditation. Neuroscience Letters. 2001. 310: 57-60.
4. McDougall D. Experimental investigation of the spiritual nature of man. Journal of the American Society for Psychical Research. 1907. 1: 237-244.
5. Goldfine AM, Schiff ND. Consciousness: its neurobiology and the major classes of impairment. Neurologic clinics. 2011. 29: 723.
6. Radin D, et al. Consciousness and the double-slit interference pattern: Six experiments. Physics Essays. 2012. 25: 157-171.
7. Nelson RD, et al. "Correlations of global events with measures of collective consciousness." The Journal of Scientific Exploration. 2002. 16: 547-570.
8. Hinterberger T, Schmidt S, Kamei T, Walach H. Decreased electrophysiological activity represents the conscious state of emptiness in meditation. Frontiers in psychology. 2014. 5: 99.
9. Travis F, Shear J. Focused attention, open monitoring, and automatic self-transcending: Categories to organize meditations from Vedic, Buddhist, and Chinese traditions. Consciousness and Cognition. 2010. 19: 1110-1118.
10. Lomas T, Ivtzan I, Fu CHY. A systematic review of the neurophysiology of mindfulness on EEG oscillations. Neuroscience & Biobehavioral Reviews. 2015. 57: 401-410.
11. Braud, W. (2003). "Psi Research" — William Braud is a prominent figure in the field of parapsychology and has discussed episodes where claimed psi phenomena, such as poltergeist activity, telekinesis, and some energy healing experiments, have been associated with reported weight changes or other physical anomalies.
12. Stapp, H. P. Mindful Universe: Quantum Mechanics and the Participating Observer. Springer. 2007.
13. Rubik, B. The biofield hypothesis: Its biophysical basis and role in medicine. Journal of Alternative and Complementary Medicine. 2002. 8: 703-717.
14. Beauregard M, Courtemanche J, Paquette V, St-Pierre EL. The neural basis of spiritual experiences. Neuroscience Letters. 2009. 405: 186-190.
15. Fingelkurts AA, Fingelkurts AA, Kallio-Tamminen T. EEG-based operational architectonics framework captures altered states of consciousness induced by meditation and hypnosis. Consciousness and Cognition. 2020. 86: 103033.
16. Persinger MA. Neuropsychological bases of God beliefs. Praeger Publishers. 1987.
17. Corby JC, Roth WT, Zarcone VP, Kopell BS. Psychophysiological correlates of the practice of Tantric Yoga meditation. Archives of General Psychiatry. 1978 35: 571-577.
18. Levin J. Meditation and the "Mind-Body Problem" in Scientific Perspective. Journal of Religion and Health. 2020. 59: 2299-2317.
19. Delorme A, Makeig S. EEGLAB: an open source toolbox for analysis of single-trial EEG dynamics. Journal of Neuroscience Methods. 2004. 134: 9-21.