

•Psychophysiological tests on Medjugorje seers.

•A critical appraisal.

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•Neurophysiological correlates of claimed seer's ecstasies, one of the most important aspects of the so-called Marian apparitions of Medjugorje, have been examined by four Medical Commissions (1984, 1985, 1998, 2005); according to those, the medical and clinical tests performed would have enabled to prove its authenticity and to define a specific ecstatic psycho-physiological paradigm.

•Three extensive medical/religious reports of these experiments were published outside of scientific journals, but not exposed in front of qualified auditory.

•An accurate review of this material does not support any enthusiastic statements, and can safely exclude any alleged correspondence between some psycho-physiological changes occasionally occurring on seers and hypothetical supernatural events.

•Strangely, no voice has emerged from catholic audience to rationally contest what was proposed as a result of research carried out in Medjugorje, despite endless controversies about the theological implications of alleged apparitions. But even more strange is the evidence that scientific community is almost completely uninterested in these researches, unpublished in peer reviewed journals. This has allowed many apologists to claim that obtained results are incontestable.

•Recently I have self-published an extensive counter-analysis.

•What means medical tests on visionaries?

•Commission's members claims:

- visionaries have a 'supranatural' experience; they 'see' the Virgin Mary
- during the visions they are in a modified state of consciousness ('ectasys')
- ecstasy show a typical neurophysiological/neuropsychological pattern
- medical tests permit to exclude lies or fraud

•Main personal points of criticism:

- lack of detailed information on some performed test and relative data
- deficiencies in the planning, implementation and evaluation of tests, characterized by methodological deficiencies and arbitrariness of evaluation (very few experimental seances; not all seer testes in the same time; ambiental disturbances; too short records; simultaneity of various tests)
- nothing of medical tests has been published in peer reviewed scientific journals
- neurophysiological pattern similar to that of Medjugorje has been recorded in ordinary state of consciousness in subjects aware of his environment and able to respond to instructions: no blinking of the eyes; acceleration of the cardiac rhythm; continuous alpha brain waves with the eyes open
- the components of so-called "Scientific Commissions" ever showed an attitude of "credulity" or "naivety", as the visionaries said: "for the Virgin these scientific studies are minor things."
- almost all examiners are prone to convalidate apparition, nor indifferent or disinterested

•- it is impossible to persuade the visionaries to undertake new tests outside the religious contest.

•Medjugorje visionaries may have practiced techniques enabling them to enter into deeper trance-like states. But, which are the neurophysiological correlates of them?

•According to Fischer's map of consciousness states, Margnelli investigates some psychophysiological index: cardiac, respiratory, electrodermic response, pletysmography. Only three experimental sessions give a complete set of parameters, unfortunately inconclusive.

•In the only three complete performed recordings, we don't recognize any common pattern of the various parameters; their variations appear absolutely inconsistent. In particular: in the case of respiratory frequency and fasic electrodermic responses, there are three distinct trends; in the case of heart rate, Jakov's the trends are opposite in the two recordings.

•Personal point of view

•The various tests performed (Cardiovascular, Sensory, Visual, EEG, Evoked Potentials,) have added nothing to what is known in the field of modified states of consciousness, nor highlighted biological phenomena so far unknown to neurosciences.

•There is a clear discrepancy between the narrowness (and even the contradiction) of obtained data, and the claim that they are scientifically relevant.

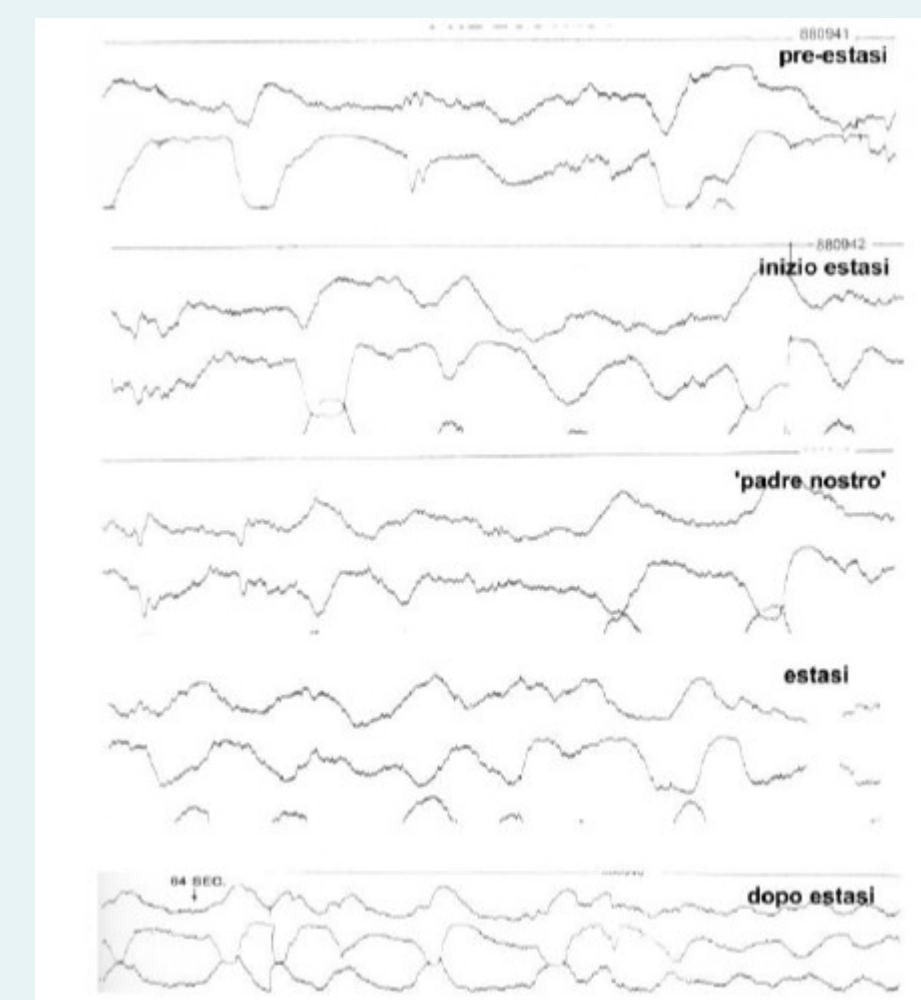
•The only explanation of what is being observed in Medjugorje is a conscious deception perpetrated for over thirty-five years by six so-called seers; but the various committees have always refused to take seriously in consideration this explanation.

•Calling science as testimonial has been, since the beginning, a good choice for Medjugorje supporters, which have taken great advantages from the commercial point of view. More than ever it is necessary to stop that process, exposing scientific and religious fraud.

Main alleged 'anomalous/significant' data in ecstasies	Criticism/Alternative explanation
Disconnection from the real world during trance-like condition	Evidence from the video footage: visionaries react/speak to examiners or audience
Close synchronization between the eye movements of the visionaries while they were "seeing" their alleged visions	Only one test was performed in two visionaries. Lack of synchronization (1/5 of a second) on the basis of published graph; normal reaction time to an undetectable start signal
EEG: 'unexpected' persistent alpha rhythm with open eyes	Extreme shortness/Very bad quality of the two only records
During ecstasy one of the visionaries was allegedly impervious to loud sounds or very bright lights	This 'testimonial' test is scientifically irrelevant
Reduced blink and eyes movement	Visionaries can easily simulate
Normal PEV, PES, AEP demonstrate cortical 'disconnection'	Tests demonstrate a normal transmission of multimodal signals
Psychophysiological test demonstrate a sympathetic 'ergotrophic' activation	The only three complete tests show contradictory results
Visionaries' pain threshold greatly increased during ecstasy	While not in "ecstasy" visionaries react as soon as possible to the pain - while in alleged "ecstasies", they resist the pain as long as possible
the visionaries' voices became inaudible once ecstasy had begun ("articulation without phonation.")	the visionaries were intentionally moving their lips without making any sound
Not fraud and deception on the basis of psychological tests	deception is undetectable
Not "pathological hallucinations" on the basis of medical examinations	scientific investigations cannot exclude hallucinations

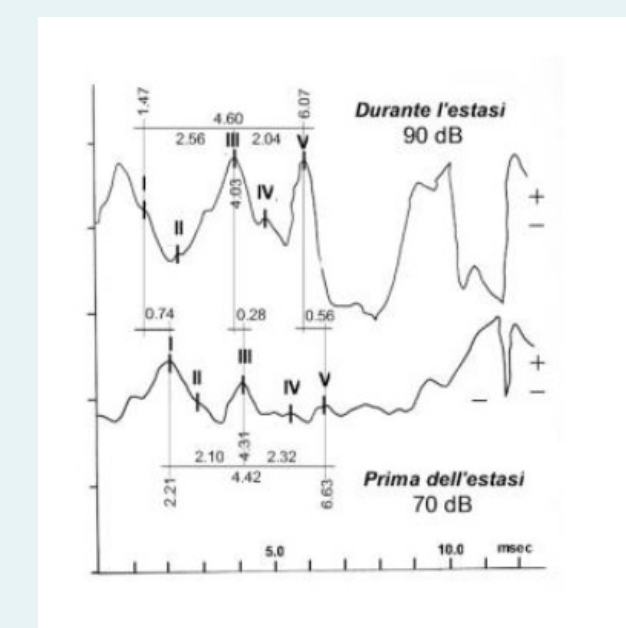
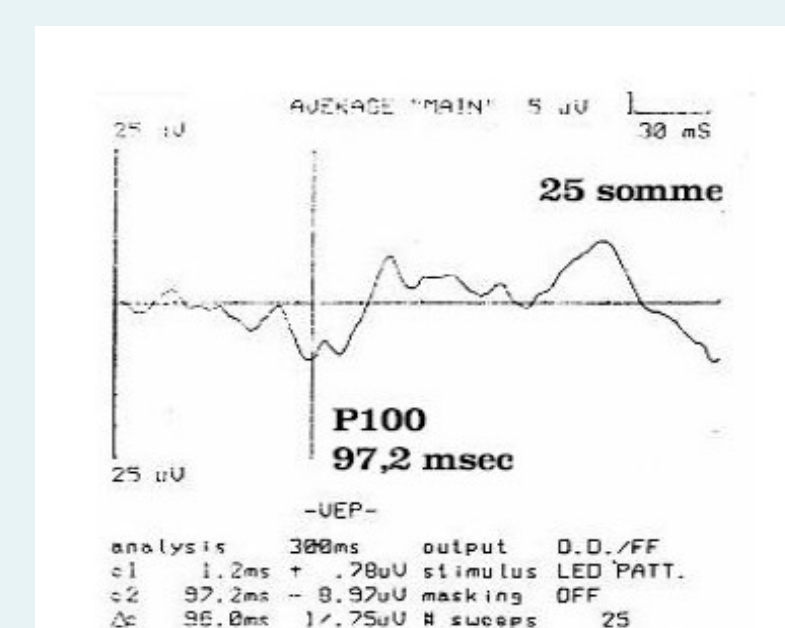
EEG recordings (1984)	
Alleged data and evaluation	Criticism
All the time the visionaries remained in a state of "alpha rhythm" ("the rhythm of a contemplative in calm prayer.")	Very bad quality of records; no clear recognizable alpha
The graphs recorded before, during and after the apparition show only minimal differences.	Record too short (no more than 1 minute) for detecting differences
no sign of any "cerebral anomaly" or "pathological symptoms."	Irrelevant
The test eliminates the possibility of pathological hallucination	Hallucination is not in question

Example 1 - EEG records (1985)



The various moments of Ivan's 1984 EEG. Traces of 20 seconds. Presumed duration of ecstasy can be stopped in about 60 seconds and the trace is published in all its continuity. Lack of clear differences between traces, except by artifacts.

Example 2 - Evoked potentials records (1985)



Example 3 - Psychophysiological tests (1998)

Psychophysiological tests (1998)				
Variations in ecstasies vs basic values				
	Heart rate	Respiratory frequency	Spontaneous electrodermic activity	Fasic electrodermic activity
Jakov 7.9.1985	Unmodified, then slight reduced	reduced	reduced	absent
Jakov 8.9.1985	Unmodified	increased	Unmodified	Unmodified
Marija 23.4.1998	Unmodified	Unmodified	reduced	increased

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