

There seems to be substantial overlap between these functions of insular cortex and the responses of physical mediums during PK production.

It is postulated here that at the end of a prolonged sympathetic “storm” associated with the production of macro-PK phenomena, a compensatory rebound in parasympathetic activity occurs. This sudden decrease in sympathetic activity and increase in parasympathetic activity may cause the symptoms of muscle weakness, headache, dizziness, nausea and fainting (syncope, in medical terminology).

If macro-PK is indeed produced by hyperstimulation of sympathetic neurons in the ANS, controlled by insular cortex and brainstem regions, then it is likely to be a relatively primitive function from an evolutionary standpoint. Since, in this view, the control centers are not located in the cerebral cortex, PK (and perhaps ESP?) is likely to be not under conscious control; it would be nonverbal, and characterized by visceral sensations (“gut feelings” and vague “malaise” or formless anxiety). This description fits well with what we know about the functioning of psi. We may need to look beyond (beneath?) the cerebral cortex to find the brain centers that facilitate macro-PK.

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## **PHYSICAL MEDIUMSHIP: OPEN QUESTIONS FROM THE PAST — A CHALLENGE FOR THE FUTURE**

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The Rhinean paradigm has proved extremely successful and has gained scientific respectability for the field of parapsychology. Not only was its approach very simple – an experiment that can be replicated at any place and any time using average people without the need to search for specifically gifted ones – moreover this kind of replicability echoed the demand of replicability in natural sciences and thus paved the way to the acceptance of the field in academia.

Yet there is a reverse side to this success story. Investigating specifically gifted individuals (sensitives, mediums) got out of the focus of ‘scientific parapsychology’ and much of what has been achieved by earlier research fell into oblivion. (Admittedly, for the last 30 years there has been a certain upsurge in the research on gifted individuals in the context of the CIA-sponsored research in RV.) Nonetheless, in particular, research in physical mediumism came out of fashion and was at best left to amateurs. Taking into account the potential relevance of (ostensible) phenomena of physical mediumism the present state of affairs is a deplorable one. However, research in Paranormal Metal Bending was a first little step in the right direction of reversing that process.

The difficulties in investigating physical mediumism are twofold: firstly finding gifted subjects and keeping them motivated, and secondly applying appropriate research methodology. What must be demanded from an appropriate methodology is again twofold: automatic registration of data and safety against mediumistic fraud. Galileo at the very onset of natural science some 400 years ago is credited with saying ‘to measure what is measurable, and what is not, to make it measurable’, and same still applies to research in physical mediumism. Visual observation (a prime example is the account of Princess Metternich on her observations on D. D. Home), preferably by several witnesses, is good, however, automatic continuous recording of quantitative data is better. This is the standard since the 1870ies (Crookes’ experiments with D. D. Home, recording of the readings of a spring balance) and there is no way of going

below this level. It should be added that automatic recording of data as such is not necessarily fraud-proof and proper safeguard needs to be taken in any case.

The gold standard of experiments in physical mediumism is beyond any doubt the series of experiments with Rudi Schneider carried out by Eugène and Marcel Osty in 1930. Not only was the methodology of recording the absorption of an infrared beam flawless (at least has it not been called into doubt by fellow parapsychologists), also the results that have been achieved were impressive: the correlation of the oscillation of said absorption rate to the respiration rate of the medium. The nature of this correlation remains an open question (one of the many in the field). The later experiments with Rudi Schneider by G. A. Schwaiger employing an early TV-set were discontinued due to the turn of events during the 2nd World War.

Every leading edge of scientific research needs to utilize state-of-the-art equipment. At the time of Schrenck-Notzing this has been Amereller's electrical medium control apparatus applied in experiments carried out in the dark or in extremely reduced light conditions. The equivalent present level would be video recording such experiments by using light amplifier devices. Any experiment falling short of this standard (e. g. the Scole Group) cannot be regarded as conclusive.

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## THE MYSTERY OF ECTOPLASM

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Most people consider the production of ectoplasm by physical mediums fraudulent. Many charlatans took advantage of the darkness of the séance room and the desire of believers to communicate with the dead. Many were unmasked and physical mediumship was ever after suspect.

However there are still instances that seem genuine. My purpose here is to reexamine some of the evidence for these cases and to encourage researchers to not "throw out the baby with the bathwater," but to look into a phenomenon that might teach us much about human mind/body capabilities.

Ectoplasm, if it exists, by its very nature strains the credulity of even those whose "boggle thresholds" have been stretched nearly to infinity. It is supposedly made up of organic elements, especially albumin, yet it appears in various forms from a vapor or clear liquid to a plastic, white solid or semi solid. It is exuded from various orifices of the medium's body but can dissipate and/or be reabsorbed by the medium. In addition it is also subject to the psychological idiosyncrasies of individual personalities, and may at times be influenced by what Jung called the "joker" or "trickster" aspect of our psyches.

Its many forms are as varied as the beliefs and unconscious mental images of the mediums who produce it. The phantom "Katie King," produced by Florence Cook, was at times life-like, seemingly warm blooded, had a measurable pulse, spoke and interacted with observers but did not always appear fully formed and disintegrated before the eyes of witnesses under the controlled conditions of her chief investigator, Sir William Crookes.

Ectoplasm may also have electrical or photo-electrical properties and sometimes appears as lights or luminous animate objects. These were particularly pronounced in the emanations of D. D. Home, Franek Kluski, and recently the Scole mediums.