

Human Radiations

Over the years a number of ideas have been put forward based on the concept of radiations, or emanations, of biophysical forces from human beings. This concept, although generally disregarded by parapsychologists today, was once widely used to explain phenomena such as auras, ESP, healing, luminous effects, materializations, movement of objects, and many other events^[1]. Earlier assessments discussed ideas from antiquity and folklore;^[2] here the emphasis will be on the pre-1930s literatures of mesmerism, Spiritism and Spiritualism, and psychical research. The ideas found in the literature are not necessarily comparable: some represent concepts of universal or vital radiations, while others refer to bodily-based nervous forces or cerebral radiations. But all were used in one way or another to explain various psychic phenomena.

Animal Magnetism

In his book *Mémoire sur la Découverte du Magnétisme Animal*, the physician Franz Anton Mesmer^[3] put forward several propositions about a universal fluid he called animal magnetism, which he believed could bring about actions in both organic and non-organic matter.^[4] This putative force was the central concept of mesmerism, a movement which flourished between the 18th and 19th centuries, and even later. It was said to be not only in the human body but all around in nature, and was thought to have healing properties. It was polarized like magnets, could be reflected by mirrors, and communicated to animate and inanimate matter, sometimes via sound.

Mesmer and his followers used passes (and initially, magnets) to control animal magnetism to induce healing, trances, clairvoyance, and other phenomena. In the words of one of these followers: ‘The magnetic fluid continuously escapes us: it forms an atmosphere around our body... which... does not act noticeably on individuals around us; but when our will pushes and directs it moves with all the strength that we impart: it moves like light rays sent out by bodies ablaze’.^[5] Mesmer himself wrote:

As we cannot comprehend how a body can act upon another at a distance, without there being something to establish a communication between them, we suppose that a substance emanates from him who magnetizes, and is conveyed to the person magnetized, in the direction given it by the will. This substance, which sustains life in us, we call the magnetic fluid. The nature of this fluid is unknown; even its existence has not been demonstrated; but everything occurs as if it did exist, and that warrants us in admitting it...^[6]

Some believed that animal magnetism was a nervous fluid intimately related to heat electricity and light.^[7] In fact, such ideas reinforced the notion of a universal force that could manifest in different forms. Petetin^[8] called the force ‘animal electricity’ and stated that it could bring in information into the nervous system without the use of the eyes and other sensory organs.

Many people wrote about the medical applications of mesmerism. One author stated:

That in the mesmeric trance the most severe and protracted surgical operations can be performed, without the patients being sensible of pain.

That spasms and nervous pains often disappear before the mesmeric trance.

That it gives us a complete command of the muscular system, and is therefore of great service in restoring contracted limbs.

That the chronic administration of Mesmerism often acts as a useful stimulant in functional debility of the nerves.^[9]

Many were the conditions treated with mesmeric procedures, as seen in the literature of the subject.^[10] English physician James Esdaile^[11] reported on amputations performed under the mesmeric state and listed many medical conditions successfully treated with magnetism in his medical practice in India.

Others referred to spasms, perspiration, insensibility, catalepsy and mental effects such as thought-transference, and ecstasy.^[12]

What was later referred to as telepathy was explained by Esdaile as follows. A fluid

is transmitted to the mesmerised person's brain through the medium of his nerves: and the consequence is, that the *thought-modified* nervous fluid of the active brain is both reflected and understood by the passive brain of the patient, exactly as the passive end of an electric telegraph records the impulses received from the active extremity of the battery...^[13]

Many reports of clairvoyance and related phenomena were associated with magnetism. An example was physician's Joseph Haddock's observations of a young woman called Emma:

A print of a cat was selected, and put into a card box: she put the box over her head, felt it carefully... and then... she began, — 'It is a thing; it is a dark thing; it has four legs, a tail, a head, and two eyes; things round its mouth; and it sits by the fire, and says *mew*; and it's a cat'.^[14]

Many other somnambules, or trance subjects, became famous in the mesmeric literature, among them the French clairvoyant Alexis Didier.^[15]

One interesting phenomenon was the perception of the fluid by mesmerized individuals, for example:

I put the thumb of my right hand in opposition to the thumb of the left hand of my patient, and separated our two hands horizontally; she saw the fluid out of her thumb & mine; she distinguished very well the two fluids...

Another example of the action of magnetism was its influence on the growth of plants. In one instance mesmerist JJ Ricard^[16] said he was able to revitalize shrub via magnetization, while others affected the growth of roses.^[17]

The mesmeric movement, and the idea of animal magnetism as a physical force, declined in the second half of the nineteenth century. The Scottish physician James Braid reconceptualized hypnosis as changes in the nervous, circulatory and other systems produced by fixed attention, working in concert with processes such as the suppression of breathing and bodily inactivity.^[18] As such ideas gained ground the concept of a magnetic force gradually fell out of favour, to the point that it was referred to by one writer as a 'physics of pure fantasy'.^[19] As seen in the work of Bertrand Méheust,^[20] magnetism became redefined in terms of physiological speculations, and as suggestion, to the point that physician and student of hypnosis Hippolyte Bernheim^[21] argued that it was just another example of the many wrong beliefs of humanity, along with magic, witchcraft and saints.

However, a neo-mesmeric movement continued during the last decades of the nineteenth century, and continued into the twentieth.^[22] This included the work of such individuals as Alexandre Baréty and^[23] Hector Durville,^[24] also Albert de Rochas,^[25] who wrote about the exteriorization of sensibility induced by magnetic passes. In his studies de Rochas used a sensitive individual (A) who could see such radiations around an hypnotized individual (B). In his words:

If I, as magnetizer, act on this layer in any way, B feels the same [sensation] as if I acted on his skin, and he does not sense anything or almost anything if I act in any other place than on the layer; he does not feel much if he is acted upon by a person who is not in rapport with the magnetizer.

If I continue magnetization, A. sees forming around B. a series of equidistant layers separated by a space from 6 to 7 centimeters [of width]... and B. does not feel touches, [or] prickings,... the sensibility diminishes proportionally to its distance from the body.^[26]

The Od Force

Baron Karl von Reichenbach was influenced by mesmerism in his ideas about a universal force he called Od.^[27] Od, Reichenbach thought, was produced by the human body, also by crystals, heat and other natural processes. He wrote:

I placed a specimen card of many metals before many high sensitives, who saw them all in the dark, some brighter, others darker. A glass case full of silver plate gradually grew to be full of fine fire. Coal, selenium, iodine and sulphur were all found to be luminous. The light was a phosphorescent glow, as though they were translucent... Besides the glow, the sensitives saw above these substances, flame-like emanations, losing themselves in smoke... , and in the former as well as in the latter cases, these flames could be made to nicker and be blown away by the breath, and they in many cases, throw light on the fingers, in which the objects were held. The colors of different substances varied greatly, and this variation gave a good test of the correctness of the statements of the sensitives.^[28]

Reichenbach attributed various features to Od. It was polarized and 'capable of being either directly accumulated on, or transferred by distribution to other bodies...'^[29] It could cause pleasurable sensations, sensations of cold or warmth, and

negative feelings, anxiety and cramps.

In later years the concept of Od was used by many to explain some of the phenomena of Spiritualism, among them physical mediumship.^[30] In tests conducted by the Society for Psychical Research

three observers... on distinct occasions were in some way immediately aware when an electromagnet was secretly 'made' and 'unmade' under such precautions as were devised to suppress ordinary means of knowing and to exclude chance and deception; and identified such magnetizations with luminous appearances which as described agreed generally with the evidence recorded by Reichenbach.^[31]

Other experiments were unsuccessful, possibly because they were carried out with non-sensitive participants.^[32]

Physical Mediumship

The development of Spiritualism saw various approaches to explaining the phenomena. One was that physical phenomena such as raps, movement of objects, luminous effects and materializations, were produced by emanations of biophysical forces; these were thought to emanate mainly from the body of the medium, although some theories also implicated the sitters in the séance, and more rarely, the surrounding environment. Interestingly, while many agreed about the existence of some form of human radiation, there were disagreements about the intelligent principle behind it: discarnate spirits and the medium's (usually unconscious) mind.).

An early speculation by American social reformer Adin Ballou postulated an abundance of spiritual magnetism in mediums, dreamers and clairvoyants. This principle, which Ballou called 'spiricity,' was the way by which 'spirits can exert their peculiar powers, and maintain some sort of communication with the persons and things immediately circumjacent'.^[33]

Among those who rejected spirit action were American theorists Asa Mahan^[34] and Edward C Rogers.^[35] Rogers postulated the exteriorization from the body of a nerve force which he believed accounted for physical phenomena in séances and for poltergeist disturbances. This could take place through unconscious guidance by a living agent or with no specific direction – basically an automatic process. He believed this force was the same as Reichenbach's Od, which also inspired other speculations.

Writing about table turning, Marc Thury,^[36] one-time professor at the University of Geneva, speculated about the 'psychode,' a substance that reacted to the intentions of the will, capable of being exteriorized and of causing physical actions. Thury^[37] wrote: 'We propose to name *ectenice* (... extension) state this particular state of the organism... in which the soul can somehow extend the usual limits of its action; and *ectenice force* that which develops in this state'.^[38]

In his books *Spiritualism Answered by Science*,^[39] and *What Am I?*^[40] British sergeant-at-law Edward W Cox wrote about a 'psychic force' in the nervous systems of mediums. Cox stated:

The Psychic is a person in whom there is an abnormal capacity for dislocation in the normal relationship of Soul and body. In such a condition, the Soul (or Psychic) Force ceases to flow through its usual channels and therefore manifests itself without them, as does the magnetic force, in disturbing effects upon molecular structure. Psychic Force... penetrates and permeates molecular matter; and... neutralises in matter the force of gravity.^[41]

English chemist and physicist William Crookes adopted Cox's 'psychic force' concept to make sense of the phenomena he observed with medium DD Home.^[42] He noticed that Home's power to affect instruments was variable and speculated that they were related to the medium's vitality. He wrote,

after witnessing the painful state of nervous and bodily prostration in which some of these experiments have left Mr. Home — after seeing him lying in an almost fainting condition on the floor, pale and speechless — I could scarcely doubt that the evolution of psychic force is accompanied by a corresponding drain on vital force.^[43]

Many speculations were proposed to explain materializations, among them 'invisible exudations from the human organisations' of mediums utilized by spiritual beings,^[44] and alternatively, 'united will-power' to 'attract and gather certain magnetic and material elements from the medium, the persons present, and the atmosphere...'^[45]

Much was written about the idea of transformations of bodily forces to account for materializations, for instance:

The law of conservation of energy points out that power cannot be gained in one direction without being lost in

another, consequently the power which moves a visible or invisible spirit hand must come from somewhere, and on the hypothesis laid down in this sketch the power comes from the medium. On the withdrawal of much vital force from the whole or a particular part of the body of the medium, it would seem that of necessity that there must be a loss of heat to that part; such is actually the case in practice, for at all, or nearly all, materialisation *seances* for full forms, the medium becomes cold shortly before the manifestations begin... .^[46]

The French codifier of Spiritism Allan Kardec (pseudonym of Léon Hippolyte Denizard Rivail), popularized the concept of the 'perispirit', which he conceived as a 'fluidic' semi-physical envelope connecting the soul and the body, the principle spirits used to cause physical manifestations in mediumship.^[47] A vital force emanating from mediums bodies was postulated by Russian Alexandre Aksakof, one-time imperial councilor to the czar, whose ideas concerning materialization phenomena were influential^[48] German philosopher Edouard von Hartmann^[49] postulated a nerve force emanating from mediums and sitters – unconsciously guided by the medium – that could move objects and produce other physical phenomena..

Ideas of this sort also appeared in the twentieth century, and are still with us today. Speculations in the literature refer to 'an invisible prolongation of the organism of the medium',^[50] the 'disaggregation (probably atomic) of the medium's organic substance',^[51] and 'energetic psychophysical emanations'.^[52] The emanations of so-called ectoplasm, as studied by individuals such as mechanical engineer William J Crawford^[53] and physician Albert von Schrenck-Notzing,^[54] were considered part of this. This was all summarized by French psychical researcher René Sudre^[55] in his textbook *Introduction à la Métapsychique Humaine*, in which he referred to a 'psychic fluid' emanating from the human body to produce all kinds of physical manifestations.

ESP

Vital forces or electrical-type emanations have been used to interpret forms of ESP, mainly telepathy, as with brain waves in the early nineteenth century ideas of brain waves. For example,

Let it be granted that whensoever any action takes place in the brain... an atomic movement occurs... Let it also be granted that there is... [an] 'Ether'... But if these two assumptions be granted... should it not follow that no brain action can take place without creating a wave or undulation... in the ether... Each acting, thinking brain then would become a centre of undulations transmitted from it in all directions through space... with the varying nature and force of brain actions . . .^[56]

American writer Mark Twain wrote about 'mental telegraphy', and speculated on the action of a 'finer and subtler form of electricity'.^[57] William Crookes hypothesized that 'electrical rays of wavelengths hitherto undetected by instrumental means' could perhaps emanate from the brain.^[58] Similarly, American electrical engineer Edwin J Houston argued that: 'Cerebral energy... is dissipated by imparting wave motions to the surrounding ether, and such waves are sent out in all directions from the brain'.^[59]

A later writer speculated on the existence of 'psychic waves, like hertzian waves in wireless telegraphy, [which] propagate at a distance...'^[60] This brings to mind such analogies to radio as that of American social activist Upton Sinclair's *Mental Radio*.^[61] Italian researcher Ferdinando Cazzamalli^[62] concluded after many experiments that: 'The human subject, under particular psychic conditions... gives off electromagnetic oscillations of the type of radio waves'.^[63] English physicist William F Barrett wrote that 'just as a vibrating tuning fork or string spends its energy most swiftly when it is exciting another similar fork or string in unison with itself, so the activity of the brain may be more speedily exhausted by the presence of other brains capable of sympathetic vibration with itself'.^[64]

Detectors

In his book *Laboratory Investigations into Psychic Phenomena* Hereward Carrington gave a long list of instruments used to detect human radiations. These typically used a needle or other indicator to show the action of a force emanating from the human body, such as Baraduc's^[65] biometer. An influential example was Paul Joire's sthenometer,^[66] supposed to detect a nervous force via a movement of a needle under glass when a hand was brought close to it. Joire reported larger movements of the needle with the right hand as compared to the left. Some conditions had specific patterns, such as low level movements in the case of hysterics.^[67] Critics argued that that the movements of the needle, with the sthenometer and with other instruments, could be caused by heat emanating from the person's hand.^[68]

Physician Hippolyte Baraduc was well-known for his use of photographic plates to capture bodily vital radiations.

Unexplained patterns in the photos were believed to show the existence of different types of emanations and to indicate the health and psychological states of individuals.

Other experimenters used photographic plates to capture invisible 'fluids'. One example was the 'effluviographs' of Louis Darget,^[69] photographs of hands, plants and other objects, taken without exposure to light, that showed fields around them. Darget claimed that effluviographs could reflect the health of individuals and could capture the thoughts of people. In one instance he placed a plate by the head of his sleeping wife and obtained what looked like an eagle, claiming it could have been the result of a dream (his wife recalled no such thing, however).

Critiques and Nonphysical Perspectives

Many critiques were offered of these ideas. As summarized by Bertrand Méheust^[70] in the case of France, the concept of animal magnetism was replaced as an explanation of the phenomena of mesmerism by physiological and psychological alternatives such as suggestion. Other critics argued there was no evidence for the existence of such radiations, and that in some cases artifacts or conventional explanations, such as the effect of bodily heat on instruments and photographic plates,^[71] could account for the results.

In some cases, resistance to transmission models of ESP were based on the belief in more mentalistic or nonphysical conceptions, as seen in Gurney, Myers, and Podmore's *Phantasms of the Living*.^[72] Others such as biologist Hans Driesch postulated a sort of a mental field consisting of

'something superpersonal in addition to something non-spatial in general'.^[73] It has been argued that in later years the work of JB Rhine and associates decreased interest in human radiations in parapsychology as an explanation of psychic phenomena:

The new experimental parapsychology (or at least some of its representatives) claimed that time, space and the physical characteristics of the target were irrelevant to ESP and PK [psychokinesis] test performance... The mind was clearly the causative agent underlying psychic phenomena and no consideration for fluids or electromagnetic forces of any kind was deemed necessary...^[74]

With some exceptions, physicalistic transmission ideas as explanations for ESP and other psychic phenomena have fallen out of favor, most researchers arguing instead for forms of non-information transmission. Discussion of such ideas is limited mainly to popular and occult forums.

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Literature

The literature on these topics has been widely reviewed. Useful overviews are the writings of Alvarado (2006), Amadou (1953), Carrington (n.d.), Pascal (1936), and Ungaro (1992). The concept of animal magnetism has been discussed repeatedly: two good overviews are the books of Crabtree (1993) and Gauld (1992). Both Crabtree (1993) and Podmore (1902) touch on Spiritualism and Spiritism. For different forms of photography see Chéroux *et al.* (2004) and Krauss (1995). Several articles discuss the ideas of individuals: Edwin J Houston (Alvarado, 2015), Albert de Rochas (Alvarado, 2016), Hereward Carrington (Alvarado & Nahm, 2011), and Karl von Reichenbach (Nahm, 2012).

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References

Footnotes

1.^ Alvarado, 2006; Ungaro, 1992.

2.^ Amadou, 1953.

3.^ Crabtree 1993; Gauld, 1992.

4.^ Mesmer, 1779.

5.^ Deleuze, 1813, p. 89.

6.^ Deleuze, 1852, pp. 1-2.

7.^ Charpignon, 1851.

8. ^ Petetin, 1808.
9. ^ Esdaile, 1846, p. 271.
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13. ^ Esdaile, 1852, p. 238.
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39. ^ Cox, 1872.
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