

Doctor Asuero (1887-1942) and endonasal reflexotherapy: psychological and neurological factors

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Abstract

Endonasal reflexotherapy was a therapeutic technique that became popular among physiologists during the 19th century. It was related to human genitalia and was based particularly on the work of W. Fliess, who had an influence on Freud's early theories. This study examines the unique medical practices used by Doctor Fernando Asuero (1887-1942) in the city of San Sebastián (Spain) during the early decades of the 20th century – practices which elicited a wide range of different reactions amongst patients, intellectuals and colleagues, from enthusiastic acceptance to violent rejection. The aim of the study is to describe Asuero's technique and its antecedents, understand the psychological and neurological mechanisms underlying it and illustrate the reactions of its detractors and the scientific context during the early 20th century.

Keywords: Endonasal reflexotherapy, suggestion, Fliess, Asuero.

Resumen

La reflexoterapia endonasal fue una técnica terapéutica popularizada por algunos fisiólogos en el siglo XIX y que se relacionó con la genitalidad humana, especialmente a partir de los trabajos de W. Fliess, los cuales influyeron en las primeras teorías de Freud. El presente trabajo presenta una valoración de las singulares prácticas médicas que el Doctor Fernando Asuero (1887-1942) utilizó en San Sebastián (España) en las primeras décadas del siglo XX, y que suscitaban desde la más entusiasta aceptación hasta el más violento rechazo entre pacientes, intelectuales y médicos.

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El objetivo de este estudio es presentar la técnica de Asuero y sus antecedentes, comprender los mecanismos psicológicos y neurológicos subyacentes a esta técnica, e ilustrar las reacciones de sus detractores y el contexto científico del siglo xx donde tuvo lugar este fenómeno.

Palabras clave: Reflexoterapia endonasal, sugestión, Fliess, Asuero.

INTRODUCTION: DEFINITION, ORIGIN AND ANTECEDENTS OF EN-DONASAL REFLEXOTHERAPY

Endonasal reflexotherapy, a technique which is no longer in use today, consists of stimulating the nerves located in the nasal cavity and their surrounding blood vessels with the aim of activating the sympathetic pathway, which has historically been believed to connect to other parts of the organism, in order to cure different ailments and complaints. We know that endonasal reflexotherapy was used in Mesopotamia and Ancient Greece. Hippocrates suggested a possible relationship between nasal hemorrhage and menstrual bleeding (Tourtelle, 1804) and historically, it can be related to Chinese acupuncture (Rodríguez, 1997), since despite certain differences between the two techniques, some of their therapeutic principles (reflex zones) are fairly similar.

During the 18th and 19th centuries, studies highlighting the importance of the nasal cavity became increasingly popular, with special attention being focused on the nasal mucosa and its therapeutic potential. This interest can be traced back to authors such as Baglivi (1668-1707), Voltolini (1819-1889) and Gumprecht (1864-1941), all of whom studied the application of specific substances such as dust, vapours and aromas to the nasal mucosa, with the aim of analysing its relationship with key organs such as the heart and the lungs.

At the end of the 19th century, a novel study was published which related the nose both physiologically and pathologically to human genitalia. In the study, Mackenzie (1884) claimed that the nasal mucosa became congested in women during menstruation.¹

NASAL REFLEX NEUROSIS (W. FLIESS AND S. FREUD)

This pioneering research triggered a number of studies in both the USA and Europe (Mackenzie, 1898). Nevertheless, within the German tradition and prior to the publication of Mackenzie's theories, a number of earlier papers on this theme were written by Doctors Wilhem Hack (1851-1887) and Hermann Maas (1842-1886). In their experiments, these authors administered galvanic current endonasally with the

1. Mackenzie (1853-1925) was at the time an otorhinolaryngologist working at Johns Hopkins Hospital.

aim of obtaining empirical evidence of the possible nervous connections between the nasal nerves and other parts of the organism. Still in Germany, a few years later an otorhinolaryngologist from Berlin with Polish roots, Doctor Wilhelm Fliess (1858-1928), heard about the technique being employed by his two colleagues and became interested in the method.

Fliess, who had, alongside Freud, attended a series of talks on suggestion given in Vienna by Joseph Breuer (1842-1925), established an intense relationship with Freud which we know about thanks to their letters (Masson, 1985).

From the prolific correspondence (nearly 284 letters) maintained by Freud and Fliess over the course of 17 years, we can glean a great deal of interesting information that we believe is relevant for the issue being discussed here. Laurent (2000) believes that it was Breuer who first put Freud in contact with Fliess, who later usurped Breuer as Freud's intimate friend and confidant. During this period, Freud was searching for the physiological foundations of psychological processes, to a large extent as the result of the influence of Helmholtz-Brucke's reductionist program that Laurent also observed. As a direct consequence of this, Freud approached Fliess, who had trained with Helmholtz, du Bois-Reymond, Reichert and Virchow.

It is well-known that this otorhinolaryngologist from Berlin had a strong influence on Freud's theories, since it was he who suggested that the Austrian neurologist consider the possibility of the innate bisexuality of the individual. Indeed, it is common knowledge that Freud and Fliess worked together on the development of the *Project for a scientific psychology* (Freud, 1895, 1953), a joint scientific undertaking that we know about thanks, once again, to the letters exchanged between the two men. This correspondence clearly reflects Freud's appeal to Neurology and Biology in order to explain his psychoanalytical postulates, and in this sense, Fliess was the perfect physician and confidant for testing his theories. Fliess proposed the name «nasal reflex neurosis» in a book which was published in Vienna in 1893, in which he basically claims that the nose and the genitals are related, an affirmation he bases on his observations of certain neurological and psychological symptoms (e.g. depression). The main symptoms of «nasal reflex neurosis» were headaches, migraines, irregular heartbeat and breathing, neuralgic pain in the stomach, arms and shoulders and difficulties during menstruation and pregnancy.

Fliess had previously experimented with the use of cocaine (which has a vasoconstrictor effect) as a local anaesthetic in the nasal mucosa of patients suffering from premenstrual depression, with a reasonable degree of success. In light of these results, he postulated that surgery may offer permanent results in cases of what he termed the sexual innervation of the nose.

On one occasion, Freud referred a 27-year-old patient to his good friend Fliess. The patient in question was Emma Eckstein, who suffered from stomach pains and

general discomfort, which Freud associated with the menstrual cycle, and painful nasal bleeding. It is clear that Freud's clinical judgment was similar to that postulated by Mackenzie in 1884. Moreover, he added that the whole problem stemmed from a psychological trauma caused by a supposed episode of sexual abuse during the patient's childhood. Fliess operated on Emma Eckstein in Vienna in February 1895, performing a turbinectomy (i.e. reducing the size of the nasal turbinates) which resulted in severe nasal and oral haemorrhaging. A short time later, Freud requested the help of a surgeon and former fellow student, who successfully cured the severe post-operative infection suffered by the patient, whose face had been disfigured by Fliess' surgical procedure. Despite this unfortunate event, however, Freud and Fliess remained firm friends. In fact, on 12 June 1895, following a period of fairly sporadic correspondence, Freud answered one of Fliess' letters most enthusiastically, perhaps because he suspected a cooling of the relationship due to a series of observations he had made regarding the reflexive symptoms of the nasal cavity.

It should be remembered also that in 1893, the English physiologist Preyer (1841-1897) had stated that nasal reflex neurosis stemmed not from changes in the nervous system, but rather from anatomical changes in the human genitals. Preyer, who by that time was living in Germany, was a faithful follower of Darwin's theory and Fechner's psychophysics. This author had been openly criticised by Freud for ignoring the neuronal aspect of the nasal reflex proposed by Fliess, which clearly reveals Freud's unswerving loyalty to the organicist postulates of the otorhinolaryngologist from Berlin.

At the beginning of the 20th century, several studies² were published by North American physicians corroborating Fliess' experiments. These physicians included Doctor Emile Mayer, who recounted his experiences in the application of adrenaline to the nasal mucosa, and Doctors Fliess and Kuttner, who used applications of menthol. Mayer talks in the same terms as Fliess about «genital spots» of the nasal mucosa upon which the technique should focus. These spots were supposedly located in the «tuberculum septi» and the rear part of the inferior turbinate, on the outer wall. According to Mayer, Fliess would have detected uterine contractions after stimulating the genital spots of the nasal mucosa. He also stated that he had obtained the best results in decreasing or eliminating dysmenorrhoea through the application of shocks (bipolar electrolysis) of between 5 and 8 milliamps to the «genital spots» of the nasal mucosa.

It is here that a controversial debate arose in medical circles, with some authors beginning to question Fliess' studies. Proof of this is the report published by Seifert, who concluded that the importance of blood circulation in these cures should not be

2. Minutes of the 9th North American Conference of Ophthalmology and Otorhinolaryngology, held in Boston on 19, 20 and 21 of October, 1914.

underestimated. Interestingly, this author claimed that dysmenorrhoea and amenorrhoea arose in conjunction not only with a dysfunction of the nasal reflex, but also with nasal hypertrophy or morphological alternation. To conclude, Seifert (1912) stated that the influence of the nasal reflex on the uterus may be the result of suggestion, the euphoria generated by the administration of cocaine to the nasal mucosa, which affects some people differently from others, and the relief of nasal congestion, among others. Curiously, Mayer published a piece of data that has generally gone unnoticed in scientific literature: in the patients treated, better results (i.e. more pain relief) were obtained in those with morphological alternations of the nose, something which Seifert had already pointed out. These alternations included, among others, narrowing (stenosis) of the nostril due to a deviation in the nasal septum, hypertrophy of the middle turbinates or larger-than-normal turbinates, etc.

DOCTOR BONNIER AND «CENTROTHERAPY»

One of Fliess' disciples, Doctor Kobblank (1863-1928) conducted an experiment in 1912 to confirm the presence of genital spots in the inferior turbinate of the nose. By surgically removing these spots in mice, he discovered he was able to alter the subsequent development of the genitals. One of Kobblank's findings is very revealing: the nostrils, and more specifically, their nerve endings, conduct nerve impulses from the sympathetic system to other centres of the organism (Kobblank, 1930). This finding led to the work of a French otorhinolaryngologist, Doctor Bonnier (1861-1918), who conducted an important series of studies, including one on the sympathetic system connections (Bonnier, 1913) from the nasal mucosa. His theory, known as «centrotherapy» was inspired by the findings of a French physiologist, Claude Bernard (1813-1878), who some time earlier had provoked perturbations in the medulla oblongata (Rodríguez de Romo, 2006) by causing lesions in the fourth cerebral ventricle. Bonnier, who had a knowledge of old Chinese acupuncture techniques, suggested an inverse technique to that proposed by Bernard, namely that if the functional balance of the sympathetic system was upset, then it could be re-established by «awakening» the affected bulbar nerve centres through the nasal trigeminal nerve ending.

Bonnier's «centrotherapy» was mainly focused on two fundamental principles: 1. therapeutic action should be targeted either directly or indirectly at the nervous centres responsible for the ailment or dysfunction; and 2. the organ in which the damage manifests itself is not the cause but rather the victim of the illness, since being regulated by its respective bulbar nerve centres, it is these centres that should be treated in order to ensure proper working. Based on these premises, Bonnier claimed that the presence of small harmful stimuli may alter the balance of the nasal-bulbar connection, an action which he defined as «enervation» and which he believed was

manifested through exaggerated responses of the NS to weak stimuli, similarly to that proposed later by Russian physiology in relation to nerve types and their relationship with stimuli (Pavlov, 1927/1994).

According to Bonnier, continuous «enervation» of a nerve centre would alter the physiology of the individual, triggering chronic disorders. Consequently, he suggested the idea of influencing the medulla oblongata through the afferent pathway of the trigeminal nerve endings present in the nasal cavity. In practice, what Bonnier did was cauterise (burn) diverse areas of the inferior turbinate which he believed were connected (at a distance) to the heart, the digestive system, the lungs, the pancreas and even anxiety (e.g. the nerve ending in the outer wall of the rear part of the inferior turbinate) and other related pathologies.

Like many of the other players in this story, Bonnier was «accused» by French medical colleagues of curing by suggestion rather than by the direct action of the trigeminal nerve. Bonnier fervently defended his technique and even went so far as to say that, even if suggestion were somehow involved (which, he adds, would be difficult), this would not prevent it from being a successful treatment.

In 1902 Bonnier became a member of the Paris Psychological Institute, a society founded in 1900 which aimed to foster psychic research, including the study of paranormal phenomena. Bonnier was attracted to this field more as a result of his innate curiosity than because of any fervent conviction of the veracity of these phenomena. Thus, Bonnier was no stranger to the contemporary debate regarding the explanation of suggestion and hypnosis.

Bonnier makes an interesting reference to possible psychological explanations. He believed that the brain supported a psychological «I» which was basically made up of one's conscious representation of oneself, while the medulla oblongata supported an organic «I», which was a network of relations with the nervous system, all regulated by this part of the brainstem. This, according to Bonnier, would affect different studies in the field of psychology, since it indicates that the brain is aware of an «I» about which it has no organic details.

Despite the literature and medical practices that Fliess' «nasal reflex neurosis» triggered during those decades, some authors such as Thornton believe that this whole elaborate theoretical architecture was based on a simple medical error. According to Thornton (1983), Fliess never quite managed to understand how cocaine works, and when he applied it to the nasal mucosa, he believed that its effect would be the same in any part of the body. What he did not know was that, by applying it to the nose, he was guaranteeing its rapid absorption into the bloodstream, something which would have had a direct effect on the brain, and the resulting alleviation in migraines and menstrual pain was not, Thornton tells us, under any circumstances due to the operation of a complex mechanism as Fliess supposed. Thornton also believes that this

error was further exacerbated by his supposition of a link between the nose and the genitals, and that his belief in the existence of «genital spots» and his development of the theory that many illnesses had a sexual aetiology, as outlined in a monographic paper he wrote on the subject (Fliess, 1897), had an incalculable effect on the field, especially when we consider their influence on Freud and on the development of his theories (Webster, 1999).

Having outlined the genesis and development of these theories, one of the aims of this study is to analyse their influence on the medical practices of Doctor Asuero in the city of San Sebastián (Spain) during the first decades of the 20th century. The study also aims to propose a series of explanatory hypotheses for the phenomenon of nasal reflexotherapy, in juxtaposition to the orthodox medicine of the period.

DOCTOR ASUERO'S UNIVERSITY TRAINING AND EARLY CLINICAL PRACTICE

Fernando Asuero y Saenz de Cenzano was born into a family of doctors from a Spanish town near Haro (La Rioja), whose medical tradition dated back to the 18th century. He was born in San Sebastián (Spain) on 29 May 1887, since at the time his father was a public prosecutor in the law courts of that city, the capital of the province of Guipúzcoa. His father, Angel Asuero, died when Fernando was just 10 years old, and the young boy was taken in by his maternal grandparents. He later completed his studies at a Jesuit boarding school in Tudela, where he gained a reputation for sporting prowess and football skills.

In 1912 he earned a degree in Medicine and Surgery from the Central University of Madrid, under the supervision of the otorhinolaryngologist Doctor Garcia Tapia (1875-1950), before moving to France to specialise in otorhinolaryngology at the Pitié-Salpêtrière Hospital in Paris (1913-1914). He also trained at the clinic run by Doctor Lubet Barbon (1857-1948). He then finished his training at the University of Cambridge (UK), before returning to San Sebastián in an attempt to flee the tense atmosphere that had developed in Europe just prior to the First World War. Asuero worked in San Sebastián in a number of different hospitals and in June 1914 married Maria Ruiz de Arcaute, the daughter of a Spanish industrialist (Vea-Orte, 1995). That same year he started work at San Antonio Abad Hospital, initially as an A&E doctor and later as a specialist. On 26 May 1929, Asuero and his colleagues were forced to resign from their posts at this private hospital in San Sebastián when they refused to stop using asuerotherapy after the hospital management censured it, describing it as «non-scientific» in clear alliance with Asuero's critics and detractors who represented the Spanish orthodox medical thinking of the era.

Asuero also worked as an otorhinolaryngologist at the Red Cross Hospital and the public hospital in San Sebastián, as well as in his own private surgery.

DOCTOR ASUERO'S ENDONASAL REFLEXOTHERAPY

In his private surgery, Asuero had some success curing a variety of ailments through nasal reflexotherapy, a technique he had learned during his time in Paris. However, his technique differed from Bonnier's in that Asuero did not cauterise the nasal mucosa, but rather inserted a steel probe ending in a ball-shaped rosette into the nasal cavity. His purpose in doing so was to normalise the circulatory system by using the probe to excite the nasal mucosa, or more specifically, the blood vessels and nerve endings which reflected the sympathetic system. Doctor Asuero himself stated that a special relationship must be established between practitioner and patient as a complementary yet vital factor in the technique's success. Asuero never revealed what this special relationship or «psychic state» actually consisted of, and neither did he explain the exact zone of the nasal mucosa impacted by the probe; rather, he talked always in generic terms of «diverse procedures» and a «personal factor difficult to define» (Asuero, 1930). Indeed, he even acknowledged that when using his technique, or as he was wont to put it, his «system», he was often surprised by the excellent results obtained. Nevertheless, he left no written protocol of his method that could be verified by the medical community and although this was of little importance to Asuero himself, as we shall see later, it nevertheless served to discredit and undermine the authority of his technique.

It was the French physician and teacher Helan Jarwoski (a former disciple of Pierre Bonnier) who, in the prologue to Asuero's book, praised his praxis and highlighted his special gift for treating patients. Jarwoski pointed out that his work contributed a personal element to nasal reflexotherapy that could not be defined by the science of the age, and that the confluence of both circumstances, reflexotherapy and the influence of the physician on the patient's psyche, resulted in the curing of ailments such as pain, asthma, ataxia, motor difficulties, hypoaesthesia, hyperaesthesia, rheumatism, digestive problems and dysmenorrhoea, etc.

Nevertheless, acknowledgment by the prestigious French professor was not enough to prevent Dr Asuero being persecuted and harassed by the press. Just as the media fed the sensationalist flame of the doctor's miraculous system, generating in May 1929 an unexpected and massive influx of sick people into San Sebastián in the hope of being cured, it also served as conduit for certain illustrious personages from the fields of culture and science to level harsh criticism at the physician, and express their disapproval of his techniques.

Lacking a protocol outlining the method used, this new technique, which was commonly known as *asuerotherapy*, took into account psychological factors that,

according to Asuero, also came into play during treatment. As a result, Asuero's critics and detractors basically confused the state of reciprocal trust and conviction generated between physician and patient with the idea of suggestion, a concept that had previously been used to humiliate Bonnier in 1913, and was now wielded against Asuero.

HIS PERSONALITY, TYPE OF PATIENTS AND SOCIAL CONTEXT

Thus, from an historiographic perspective, we are faced with three areas of analysis: the physician himself, his patients and the social context. Following this same order, we shall begin by describing Dr Asuero.

Many different accounts have been forwarded of his personality and character, especially in the derogatory Spanish press articles of the era, in medical circles which were against his procedure and other media, particularly in Argentina, to where he moved after the aforementioned incidents in 1929.

In relation to the personality of the controversial otorhinolaryngologist, the work published by Veá-Orte presents a rigorous, insightful description. The author's access to documentary sources, as well as to the physician's family members and descendents and some of his personal belongings, enable him to provide a fairly accurate portrayal of Asuero's nature and character. Based on a number of different testimonies, Veá-Orte describes him as an optimistic extrovert, a lover of sport and a dynamic, generous, religious, good-humoured, straightforward, intelligent and observant man, with a good professional reputation and a fervent desire to live life to the full (Veá-Orte, 1995).

An intense exchange of opinions occurred in the Spanish press and medical journals between advocates and detractors of Asuero's technique. Thanks to these written records, we know a great deal about how other physicians saw him. In general, the stances adopted by his fellow professionals can be divided into three groups. Firstly, there was the group of physicians who viewed Asuero as a speculator, trickster, charlatan and false miracle-worker. Secondly, there were those who were sceptical, but were willing to give Asuero the chance to provide a scientific explanation for his cures. And finally, the third group was made up by his followers and supporters, who tried to use his technique in clinics and hospitals all over Spain without ever being able to replicate his success (Martínez, 1929).

In general terms, we can say that Asuero made the headlines of both local and national newspapers thanks to the testimonies provided by his patients, who came from all over Spain. Asuero did not engage in written debates with his detractors in either the press or medical journals, and it was not until he returned from America in 1930 that he published a book responding to their criticism.

The medical journals of the period adopted a wide range of different attitudes to the controversial technique. Given the extensive³ nature of the documentation in question), we will attempt to sum up here the different stances adopted. *El siglo Médico* was critical in its outlook, *Gipuzkoa Médica* (the Gipuzkoan Medical Association) adopted an avoidant attitude despite its close connections to the case, *Vida Médica* talked of the technique in ironic, disparaging terms, *España Médica* called for caution and asked that the technique be subjected to experimental verification, and *Gaceta Médica Española*, in a somewhat ironic style, stated (Noguera, 1929) that after having visited Asuero's clinic at the Principe Hotel, they found no evidence of recovery in cases of organic injuries, and suspected that «suggestion» was at play, as a result of the collective atmosphere and climate created by the press.

Following Asuero's visit to Buenos Aires, the opinion formed of him by the Argentinean medical community was mainly pejorative. In one article he was described as a vain, vulgar, ignorant charlatan (Gardey, 1930). In the same weekly publication, another article dismissed him as mediocre, uncultured and untalented (Aberastury, 1930). The local Argentinean press also published a number of profiles of his personality, describing him as schizoid, forgetful, hyperactive, easily irritated and an excessive drinker (De Sancti, 1930).

In relation to his patients, we can gain a general idea of their profile from the only images recorded in Dr Asuero's surgery in San Sebastián in 1929 (Fernandez-Colorado, 1994). In this brief but interesting feature on Asuero and his technique, we see different patients in his recently-opened surgery which, due to the sheer number of people he attended, filled three large rooms on the first floor of a hotel which is now no longer standing. Dr Asuero allowed the cameras to film him in his surgery from 24 to 28 May 1929, after his cures had caused such a sensation on the front pages of the Spanish newspapers earlier that same month. The physician selected the patients he wished to appear in the documentary with the clear aim of showing that he treated people from all social classes. The documentary features, among others, Pablo Rada, an aviation mechanic with the Plus Ultra (first Spanish seaplane which flew from Spain to Argentina in 1926), sailors of severely limited economic means, members of the civil guard, soldiers, businessmen and poor people. Other scenes feature Asuero's wife, his assistants and medical colleagues, particularly Dr Jarwoski, with the aim of providing his technique with a degree of scientific prestige and validity.

As regards the social context, as Veá-Orte states (1995), Doctor Asuero was held in high esteem by President Miguel Primo de Rivera, who had written to him person-

3. For an in-depth review and classified examination of the abundant correspondence, press articles and citations in medical journals, see the book by Veá-Orte (1995), featured in the bibliography, which is based on the author's doctoral thesis.

ally to ask him to treat some close friends. It is important to remember that in 1929, Spanish society was beset by tension between Catholic conservatives, supporters of Primo de Rivera's military regime, military commanders anxious to succeed the dictator and socialists, anarchists and other left-wing forces seeking to establish a second republic. It is therefore easy to imagine the large-scale pilgrimage of patients from all over Spain to Asuero's surgery, triggered by recent medical advances and spurred on by the country's political, economic and social instability and the persuasive influence of the media during that era.

From 1923 to 1925 Asuero had served as a councillor on the San Sebastián city council. However, after the documentary had been edited ready for its premiere in Madrid (Spain), it was Doctor Asuero himself who contacted the Spanish government to request that it be censored. According to Fernández-Colorado (1994) the most plausible hypothesis as to why Asuero prohibited the screening of the film is that he was pressured by the Spanish government to do so as part of a hidden pact, since the country's leaders suspected it might exacerbate the general climate of social alarm and intensify the controversy currently raging between the physician's supporters and his detractors. In order to explore Asuero's treatment and technique in more detail, it is important to delve into the minds of his contemporaries (Arrizabalaga, 1992), in order to gain some further insight into why they reacted as they did.

In May 1929, the illustrious physician of the period, Dr Marañón, gave an interview to a Portuguese newspaper (16 May 1929) on the subject of the Asuero controversy. In that interview, he claimed that there was excessive fanaticism and collective suggestion among patients and very little scientific evidence, and asked for X-rays and analyses to support and verify the supposed cures. Marañón then added that Asuero had the support of Dr Gimeno y Cabañas, an extremely influential figure among the political and monarchical circles of the era.

Shortly after filming the documentary, Asuero attended a huge act of tribute to his work in San Sebastián, before leaving for New York on 22 June 1929, the exact same date upon which a press release was issued by the government prohibiting both the premiere (originally scheduled to take place in Madrid's *Teatro Principal*) and any subsequent screenings of the film.

In the midst of a world-wide economic crisis, Asuero visited not only the United States but Brazil, Uruguay and Italy also, in order to talk about his technique and maintain international contact with an important group of physicians who had expressed an interest in his method. He finally arrived in Buenos Aires (Argentina) in May 1930, and stayed there for a month before returning to Spain. In that country, just as in Spain, he was harshly criticised and persecuted, something that has lived on in the collective awareness of some Argentinean doctors (García-Puga, 2002).

FIGURE 1
Farewell event for Doctor Asuero prior to his departure for New York on 22 June 1929 (Reproduced by permission of the Fundacion Kutxa Archives)



After these episodes, asuerotherapy was all but forgotten. Dr Asuero himself remained aloof from medical practice upon his return to Europe, living for a time in the French town of Cambo les Bains. Dr Asuero stayed in «Villa Amaga», the former residence of the famous French writer Edmond Rostand (1868-1918), author, among other works, of the famous play «Cyrano de Bergerac». In 1930, the new owners of the property, a Portuguese family, invited Asuero to stay. He retired in order to distance himself from the controversy generated by his work and to write his book *Ahora hablo yo: Asueroterapia fisiológica* (Now it's my turn to speak: physiological asuerotherapy). He died in San Sebastián on 22 December 1942 at the age of 55, as the result of a cardio-respiratory complication caused by angina. The evening before his death, he called his son Vicente in to raise a toast with champagne because, he told him, he could feel death approaching fast (Vea-Orte, 1995, p. 15).

TWO IMPORTANT PERIODS IN ASUERO'S REFLEXOTHERAPY

We will now look at two important periods in order to analyse both Asuero's own development and his intellectual influences. Firstly, we will focus on his training

from 1913-1914, before examining the period between his return to Spain in 1914 and the controversy of May 1929.

1913 and 1914 were particularly important years for Asuero, since it was during this time that he trained in Paris at the new Pitié-Salpêtrière Hospital, recently built in 1913. It was here that Asuero took his first French lessons and began to learn about the context of the private clinic, working alongside his mentor, the French physician Lubet-Barbon, author of the text *Maladies des fosses nasales* (1904), which Asuero would doubtless have read. In the last chapter of his book, Lubet-Barbon refers to the findings of William Hack, who in 1882 explored the connection between nasal nerve endings and other peripheral parts of the organism, as well as the efficacy of reflexotherapy in the treatment of different cases of pain and neuralgia (Lubet-Barbon, 1904, pp 217-229). What we know of Asuero's clinical development ties in perfectly with the perusal of this book, whose author (his French mentor) invites readers to study the distal reflex activity of the nasal trigeminal nerve.

Given the general innervation of the nostrils when subjected to trigeminal activity, it is hardly surprising that these kinds of event (he is referring to endonasal cures for rheumatic pain in the legs and back) are worth remarking on, due to the importance of the full and exhaustive examinations that we so eagerly carry out in relation to «incurable» diseases whose supposed «origin» prompts an incorrect assessment of where they should be studied and treated (Lubet-Barbon, 1904, p. 222).

The years Asuero spent with Lubet-Barbon (1913-1914) were coincidentally also the period in which Bonnier published his first book on centrotherapy, a work in which he outlines his technique and experiences from 1907 in great detail. It is also interesting to note that Asuero was a close friend of Dr Jarwoski, one of Bonnier's disciplines, and it was through this relationship that he first came into contact with the cauterising techniques inherent to this new therapy.

We should not forget either that in 1913 Richet was awarded a Nobel Prize in Physiology for his work on anaphylaxis. This served to boost the popularity of his earlier work on general psychology, physiological psychology and human sensorial capacities, works which Asuero also read during his sojourn in Paris and which are particularly illustrative of his development during that period. No relevant information exists regarding his brief stay in Cambridge in 1914.

After returning from France and England, however, his career followed the path of any newly-qualified physician, with Asuero gradually gaining experience in different hospitals in San Sebastián. By 1923, he had achieved both a comfortable financial position and a sound, stable professional status. Moreover, his involvement in local

politics as a member of the San Sebastián City Council afforded him no small degree of public standing, which in turn served as a platform from which to publicly promote and defend his new technique with a certain measure of security.

Another important factor is the appearance of a series of books and publications which threatened to undermine the dominant status of French orthodox medicine – a situation which more orthodox Spanish physicians viewed with undisguised suspicion. According to Asuero's grandchildren, his library contained books linked to the heterodox medical thinking of the era, with special emphasis on those written by French authors. These writings included Richet's work on metapsychics (1992), Leprince's treatise on reflexotherapy (1923), Bonnier's posthumous edition on centrotherapy (1923) and a broad collection of books on Chinese curative procedures, which gradually became increasingly popular in Europe, particularly France, as the result of colonial presence in Indochina, where early French missionaries and doctors learned age-old techniques such as acupuncture.

It is highly likely that, inspired by the works of Lubet-Barbon and Bonnier, Asuero began tentatively and inductively to develop his own technique, which by then no longer used cauterisation (although he did acknowledge having initially carried out nasal cauterisation in accordance with Bonnier's method).

His penchant for Richet's works may be explained by his interest in this French physiologist's scientific and positivist style, applied to the sensorial study of what Richet termed «strange psychic phenomena» (later known as paranormal phenomena). There is no documentary evidence showing that Asuero participated in metapsychics as other Spanish researchers did, although it is logical to assume that Richet's work inspired him to use an unknown energy or faculty (which he called his «special gift») to capture the origin of his patients' diseases and ailments. This «gift» however, was also supported by thorough urine and blood analyses, as Asuero's clinical records show. These analyses were aimed at detecting any possible vasomotor dysfunction of the medulla oblongata and calculating the type of pressure to apply to the nasal mucosa and the type of probe to use.

The first known clinical success story was his treatment of his private chauffeur, in which he noticed that the exploratory endonasal use of the probe fortuitously resulted in the disappearance of a series of symptoms (rheumatism, pain and musculoskeletal disorders) not linked to the nasal pathology which had originally prompted the patient to ask for an informal appointment with Asuero at his private home. This fits in perfectly with what Lubet-Barbon says in his book (1904, p. 222). Unsurprisingly, Asuero officially claimed to have begun using his technique with someone from his close circle, rather than with a conventional patient, in order to avoid accusations by the Spanish medical authorities, who like their counterparts in France, were wary of Bonnier's new technique.

Given his experience and sound economic situation, Asuero had no reservations about offering his therapy to the general public (May 1929). This expansion was further aided by the media coverage provided by Spanish newspapers, which adopted an eminently sensationalistic view of the technique.

EXPLANATORY HYPOTHESES OF THE PHENOMENON

Despite the existence of photographs, texts and even a documentary film describing Asuero's technique, the task of reconstructing events and explaining his praxis is an extremely complex one.

The film (Fernandez-Colorado, 1994) features no scenes in which the technique is applied to patients, and there is just one brief, rapid sequence showing a simulation of the process being carried out on one of Asuero's medical colleagues. In this sequence, we see Dr Asuero positioning some nasal forceps, which are mostly covered by his left hand, and then inserting his characteristic probe into the nasal cavity, although this action too is hidden by his left hand, which he holds directly over the «patients'» nostril. After the probe is inserted, the sequence shows Dr Asuero making two rotary movements of approximately 180° from left to right at the top of the outer wall of the nasal membrane. Upon examining the scene in slow motion, it becomes clear that he sharply hits the upper area of the nasal mucosa, probably at the height of the middle-superior turbinates.

In light of that recounted above, and from an historical perspective, we will now try to offer (with all due caution) a series of explanatory hypotheses of the cures achieved by Dr Asuero. Current neurobiological and neuropsychological knowledge places the techniques used by Asuero and his predecessors in the field of reflexotherapy in the category of «scientific enigma» (Kühn, 1962), rather than in the realm of unscientific practices as their detractors claimed. In this sense, it is important to highlight the fact that the debate regarding Asuero's system was not (and has never been) conducted through the correct scientific channels. Nor was any physiopathological research carried out which may have shed some light on the drastic improvements reported by his patients.

The only exception is the rigorous study conducted by Veá-Orte (1995), which brilliantly summarizes the physiological and morphological foundations of Asuero and other authors' reflexotherapy, and leaves the door open for further research. The work invites us to explore certain aspects that Veá-Orte dealt with only superficially. In this sense, we wish to add to Veá-Orte's work by re-examining some of these aspects from the perspective of something that was underestimated and misunderstood at the time: Doctor Asuero's psychophysiological praxis.

This is, in our opinion, the key element here. In the «system» defined by Asuero, psychophysiological concerns are paramount for any reflexological intervention. In

this sense, we believe it important to point out that Asuero's «system» differs from the techniques used by other doctors in three key ways:

1. In the special relationship established with the patient, or the psychic state he strove to establish in them, in order to carry out the reflex action which would lead to an improvement in or cure of the ailment in question.
2. The specific design of the probe, which ended in a rosette of spherical balls and which was inserted into the nasal cavity.
3. The exact point of the nasal membrane at which contact took place.

In relation to the first element, Asuero was always very clear about the fact that while his method was reflexotherapeutic, his «system» also relied on the patient's psychic state (he did not initially use the term suggestion).

There is a psychic factor at play in my method which places the organism in a state conducive to stimulation by physiological means. However, to stimulate an organism, it is necessary to surprise it (...) I have no wish to engage in complicated explanations of this personal factor, which I consider to have been acquired by me, as indeed it could be acquired by others, as the result of successive results in the practice of the system, and the confidence that comes with treating cases on a large scale; as a result, one is filled with an indefinable something that helps one attain a special psychic state that has a positive effect on the patient (Asuero, 1930, p. 247).

In other words, more than using suggestion with his patients, what Asuero strove to do was «surprise» them. We do not know what discursive-emotional strategy or formula he used to activate in his patients a physiological state similar to arousal (referring to the state of excitation and generalised alertness of the organism in response to a threatening or environmentally demanding situation, not to be confused with sexual arousal), which resulted in an increase in blood pressure, vasoconstriction in the vascular endings of the nasal membrane and an increase in the synaptic activity of the trigeminal nerve endings in the nose (hyperactivity in the sympathetic nervous system).

With what and how did he act? From the probe and its peculiar nickel-coated rosette-shaped tip (Calvache, 1930) we can speculate that, since it was made from a ferromagnetic material it may be that, at a certain temperature, it would have concentrated a magnetic field line with the nerve and vascular endings of the nasal membrane (we also know that at room temperature, nickel retains its ferromagnetic properties). The specific structure of the probe, which ended in a set of spherical

balls (the instruments inherited by Asuero's descendents include both conventional probes and those designed by the physician himself, which end in tips formed by sets of either two or four balls), may have been designed by Asuero in order to have the same impact, at the same time, on both a nerve ending and its adjacent blood vessel, by making them pass through the arc formed by the balls (a bipolar field?) at the tip of the instrument. The tip of the probe would impact the blood vessel and its adjacent nerve without the handler requiring visual access, but relying rather simply on touch, and would then «pinch» the nasal membrane when rotated approximately 180°.

FIGURE 2

Doctor Asuero examining a patient

(Reproduced by permission of the Fundacion Kutxa Archives)



FIGURE 3
One of the instruments designed by Doctor Asuero ended in a set of two spherical balls (Reproduced by permission of Dr. Veja-Orte)



Where was contact made? Probably on the middle-superior turbinates, in the front part of the lateral wall (anterior ethmoidal foramen) which, as stated earlier is an area sensitive to external stimulation (Asuero talks about exciting and surprising, i.e. arousing the organism), especially in light of the psychophysiological reaction provoked beforehand. We therefore have two important elements which are mentioned in the literature (Fröese, 1930) and which would act (so to speak) in the reflex zone: on the one hand we have the action of the probe at a certain temperature on the blood vessel endings in the nasal membrane, which are in a situation of vasoconstriction (patients were treated in an upright position since when supine, there is a greater tendency towards vasodilatation) and the hyperactivity of the nerve ending adjacent to the blood vessel (The internal nasal nerve or the anterior ethmoidal nerve, enters the nostril with the anterior ethmoidal artery through the anterior ethmoidal foramen. The external branch, or the naso-bulbar nerve, innervates the mucosa of the pre-turbinate region of the nostril's external wall and the head of the middle and inferior turbinates), which is a state similar to sympathicotonia.

If we are able to provoke the aforementioned arousal here (he is referring to the bulbar zone), the nervous system takes over with the aim of normalising one

system, namely the circulatory system, whose abnormality is, in my modest opinion, what causes disease (Asuero, 1930, p. 249).

Asuero thus sums up his praxis, but never really specifies what this abnormality in the circulatory system is; nor does he give any details of the mechanism in the bulbar zone that is responsible for re-establishing its normal functioning. Thus, having located the corresponding structures and functions which Asuero sought to influence, we will now analyse all this information in accordance with the praxis of the first German endonasal reflexologists, the models of French endonasal reflexotherapy and the French medical context of 1913-1914, the factors which triggered the development of asuerotherapy (1914-1929), its consequences and the by no means less important controversy (1929-1930) that occurred between orthodox and heterodox medicine.

CONCLUSIONS

Firstly, one of the most striking aspects to consider is that Freud (at least during the early years of his work) and Asuero used different pathways to access their subjects' psyche.

Freud wanted to find the physiological foundations of his incipient psychoanalysis. Stepansky's text (1999) is revealing in this sense, since it describes a Freud in a state of transferential dependence (Schurt, 1975) with Fliess, idealising surgery as a means of curing ailments that were beyond the power of both his limited medical knowledge and his incipient psychological model.

Asuero, on the other hand, moved in the opposite direction from the timorous and doubtful Freud in relation to nasal reflex neurosis. In his technique, he first influenced the patient's psychological state in order to then act physiologically. Regardless of all that has been said about him, there can be no doubt that Asuero focused on psychological aspects, the patient's blood circulation and the stimulation of the nasal blood vessels and nerve endings, something already mentioned by Seifert (1912).

Asuero's explanations were always based on speculation, and he never actually specified the neuromodulatory effect that his technique aimed to provoke in the sympathetic system, about which much less was known then than it is now. The following is not so much a retrospective diagnosis of the diseases treated (Arrizabalaga, 1992) as a retrospective and, therefore, presentist reconstruction of the neuromodulatory action of Asuero's technique. We believe that this lends added value to the historiographic account in that it combines the role of context and contemporary figures (historicism) with modern neurophysiological knowledge (presentism). Thus, the study of the technique in its cultural and historical framework may provide the theoretical basis for a contemporary, scientific and rigorous study which examines the technique from a modern perspective, hence justifying the historiographic approach.

From the perspective of the phylogenesis of the nervous system, the endings of the nasal-buccal trigeminal nerve and those of human genitalia would be like the first branch and the roots of a tree which guarantees the species in question oxygen, nutrients and reproduction – the three elements required for survival. Fliess' nasal reflex is therefore something wholly ancestral. The emergence of the trigeminal nerve from the embryo's first branchial arch 21 days after conception (Garcia-Alix, 2012) may indicate that we are talking about the most primitive nerve in the nervous system. The mechanisms for influencing the sympathetic pathway are still largely unknown, although it does seem clear that nasal reflexotherapeutic action on this pathway affects certain parts of the organism, as in the case of Dr Asuero and many other practitioners.

It cannot be doubted that Asuero had a technique and a special ability to reach his patients' psyche. Arousal? Suggestion? Trust? Induced faith?

The key question now is: what reaction did he trigger? It is important to remember that Asuero triggered a neuromodulatory effect in the nasal-bulbar connection that re-established the proper working of the nerve signal through the connections of the medulla oblongata and the hypothalamus; in other words, he «reset» the activity of the sympathetic nervous system.

The bulbar centre to which both Bonnier and Asuero refer would be the subretrofacial nucleus (SRFN) or the vasomotor centre (VMC), also known as the cardiovascular control centre. The VCM manages both efferent nerve signals to the spinal cord through the sympathetic pathway and afferent signals from the hypothalamic nuclei.

The response would be very similar to that postulated by Leriche (1940), who highlighted the importance of the regulatory activity of blood circulation on the ionic mechanism of the sympathetic nervous system, which may explain why Asuero always worked towards producing imminent neurovascular change.

In this sense, Thornton (1983) limits himself exclusively to the opiate properties of the cocaine absorbed into the bloodstream, and consequently, their effect on the thalamic centres responsible for pain regulation. Nevertheless, cocaine also has a vasoconstrictor effect on the arteries and blood vessels that run parallel to the nerves of the sympathetic system, in which it provokes a reaction in the nerve signal through the exchange of sodium-potassium ions in neurovascular interaction, an aspect which probably neither Thornton nor Fliess took into account. Moreover, neurovascular interaction may occur bi-directionally, either due to the activity of the baroreceptor reflex, which emits a signal from the blood vessels to the sympathetic system in accordance with blood pressure, or through the sympathetic nerve endings adjacent to the blood vessels, through the segregation of Noradrenaline (NA) towards the Alpha receptors present in the blood vessel and artery walls.

For now, all we know is that Asuero left no protocol nor any detailed description of how his «system» worked. He always claimed that a good blood flow was vital to

working a cure, and that said flow could be achieved by diverse procedures in combination with a specific psychic state.

His grandchildren talked of the possible existence of a notebook describing his technique, although it has never been found. Nor are there any real images of his interventions, over and above what we can see in the short film recorded in his surgery.

The second interesting issue from the perspective of the history of psychology is the role played by Asuero's psychophysiological technique in the dissemination and knowledge of suggestion in Spain.

What role did suggestion play in the French and Spanish medical context of the era? It is important to remember that Asuero studied at the Pitié Hospital, working alongside the neurologist Babinski (1852-1932). Although not a teacher, Babinski had already talked in 1902 of the relationship between unilateral lesions of the medulla oblongata and hemianesthesia or loss of feeling on one side of the body, a condition he termed «Babinski-Nageotte syndrome». It was Babinski, Charcot's favourite disciple, who fuelled the doubts regarding the role played by hypnosis in his mentor's treatment of hysteria, claiming that any improvement was really the result of suggestion. From then on, the term suggestion was used by French orthodox medicine in relation to Bonnier's technique, and later on in Spain to refer to Asuero's method.

The book by Sánchez Herrero (1888) is a seminal work on the study of hypnosis and suggestion in Spain at the end of the 19th century, and sheds much light on the Spanish medical context of that period. The book focuses on the study of suggestion and its repercussions on (among others) the physiology of the body's different systems. In accordance with the influence of metapsychics during that period, the use of uncontrolled, methodologically careless hypnosis reflects a context highly tolerant of these practices, in keeping with the zeitgeist of the early 20th century. From the beginning of the 1920s onwards, however, hypnosis was watched and monitored more closely by the Spanish medical authorities. This coincided in 1922 with the publication in Spain of the complete translated works of Freud and the appearance of psychotherapy manuals (González de Pablo, p. 498).

From this moment on, the concept of suggestion, which was previously closely linked to hypnosis, was used by orthodox physicians as an argument to explain cases of healing observed outside the field of orthodox medicine. This was the case, of course, with Asuero (Franval, 1929), and in general all the metapsychic phenomena surrounding Richet's studies.

The pressure applied by orthodox medicine had an impact on Asuero's most immediate environment. During a Board Meeting held in February 1930, the Gipuzkoa Medical Association reproached Asuero for having ventured outside the boundaries of science, and dismissed his technique as «classic quackery». In 1931, the same Medical Association tried unsuccessfully to sanction both Asuero himself and all his colleagues using his technique.

Asuero went from being a hero to being a harshly criticised and persecuted heretic. As a physician, he showed an immense capacity for intuition, to the extent that he predicted his own death the evening before it happened. Richet said that some sleepwalkers may predict their death or illness by means of what he termed «autoscopy» (Richet, 1922, p. 136), in the same way that an expert physician can determine the evolution of an illness after examining his or her patients' organs. Asuero had a thorough knowledge of the human psyche, and was enterprising and brave in developing an applied technique which was similar in nature to many procedures developed later, such as Kirschner's dyathermocoagulation radiofrequency (Sweet, 1953) and Mullan's technique (Mullan, 1983), all of which are now broadly accepted by medical science. A fair number of physicians in Spain and France continued to employ Asuero's technique, although finally these therapies fell into disuse and today survive only as occasional treatments in the field of alternative medicine. Asuero's special gift for establishing a therapeutic relationship with his patients and his early interest in psychological factors lend relevance to our discipline and rescue the memory of this Basque physician from the unfair accusations of witch doctor and charlatan that were levelled against him.

Thirdly, and finally, we should highlight two important aspects for the history of psychology. The first is related to Asuero's technique itself, specifically his initial attention to his subjects' state of mind, which came before any actions focusing on their sympathetic system or pain relief treatment. In other words, Asuero rescued the psychological component of this technique from the oblivion to which it had been consigned. This component has mainly been studied from the perspective of the history of medicine, with little attention being paid to its links with psychological physiological aspects.

The second aspect to highlight is the theoretical contribution that can be made by the historiographic model of psychology to the basics of applied psychophysiological research, a door that remains open for future research focusing on the experimental verification of that outlined in this paper.

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