Doctor Asuero and his astounding cures: psychogenic neurological disorders in the Spanish population

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ABSTRACT

Background. In May 1929, the Spanish press began to report on the "astounding cures" which a modest ear, nose, and throat specialist in San Sebastián was able to obtain by stimulating nasal mucosa. This specialist, Dr Asuero, would soon be overrun by patients flocking to his clinic from all over the country.
Methods. We consulted accounts of the life and works of Fernando Asuero, including his autobiography. Other sources included newspaper articles from 1929 and 1930, and *Centrothérapie* by Pierre Bonnier, from which Asuero was accused of borrowing liberally.
Results. Countless illnesses were seemingly cured by 'Asuerotherapy', as Dr Asuero called his method. Many of his patients suffered from such neurological illnesses as gait disorders, paralysis, epilepsy, and neuralgia. Just a few seconds of treatment were sufficient to restore normal gait to patients who had come to their appointment using a wheelchair or crutches.
Conclusions. Dr Asuero's results suggest that hysteria was widespread in Spain in the early part of the 20th century; they also provide an interesting historical example of the placebo effect.

KEYWORDS
Fernando Asuero, psychogenic neurological disorders, placebos, centrotherapy

Introduction

In May of 1929, the newspapers in Madrid and San Sebastián reported on a modest ear, nose, and throat specialist from the Basque Country to whose office patients were flocking like pilgrims. Dr Asuero claimed to be able to cure an impressive list of illnesses, from haemophilia to haemorrhoids, by cauterising nasal mucosa. Furthermore, patients with paralysis left his office on foot. The surprisingly curative results of stimulating the trigeminal nerve –never mind that the populace never got its name right– inspired credulity in some and irony in others. Some twenty years later, the good citizens of Madrid could still be heard to say, "you need your trigeminal adjusted".

Asuero was enthusiastically praised by the multitudes, and the Prime Minister received him with honour; nonetheless, his method would shortly be questioned by some of the most prestigious doctors in the country, including Cajal, Lafora, and Marañón. To the best of our knowledge, Asuero's method, theory, and results have never been examined from the standpoint of modern neurology and with particular emphasis on psychogenic neurological disorders.

Material and methods

Dr Asuero's biography and works were consulted in books by González,[1] Escuder,[2] Calvache,[3] De Barbáchano,[4] and De la Cueva.[5] The National Library of Spain granted access to articles published between 1929 and 1930 in the newspapers *ABC*, *El Sol*, *El Pueblo Vasco*, *La Vanguardia,* and *La Voz.* The silent film recorded by Nemesio Sobrevila in Dr Asuero's office in 1929 was also consulted in the National Library. Pierre Bonnier's 1913 book, *L' action directe*

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sur les centres nerveux: centrotherápie,[7] was said to have inspired Asuero. We were granted access to a copy held by the library of the Spanish Royal Society of Medicine.

Results

Biographical note: Asuero's rise to fame

Fernando Asuero y Sáenz de Cenzano (29 May 1886 – 23 December 1942) was born at No. 5 Calle Miramar in San Sebastián. His father was a magistrate of the provincial court. The affable and popular Asuero was never seen without his *txapela* or Basque beret. His close friends called him 'Pistón' because they had once watched him cheer wildly for a piebald fighting bull with that name.[4(p31)] He attended medical school in Madrid and later specialised in otorhinolaryngology at Hospital de La Pitié in Paris, where he also worked in the clinic run by Dr Lubet Barbon. Until April 1930, he worked in San Sebastián, first as an on-call doctor at Hospital Civil San Antonio Abad, and with the Red Cross; he later opened a private practice with an office in Calle Loyola. He had also served as the municipal councillor for public education at a time marked by clashes with teachers asserting their labour rights.

On 9 May 1929, two newspapers, *El Pueblo Vasco* in San Sebastián and *El Sol* in Madrid asked the same question: "What do you know about Dr Asuero?" This event heralded the budding fame of this modest and personable ear, nose, and throat specialist who would meet with success and the gratitude of his patients (Figure 1).[8] "The sky over San Sebastián has been lit up by a new comet called Asuero", raved the press.[9]

With his office overflowing, he had no choice but to move his practice to Hotel Príncipe de Saboya in Calle Ramón María Lili. The building was still under construction, and he had to set up several rooms in which to treat the patients from all over Spain who were converging on San Sebastián.[10] He attended no fewer than 2500 cases in the

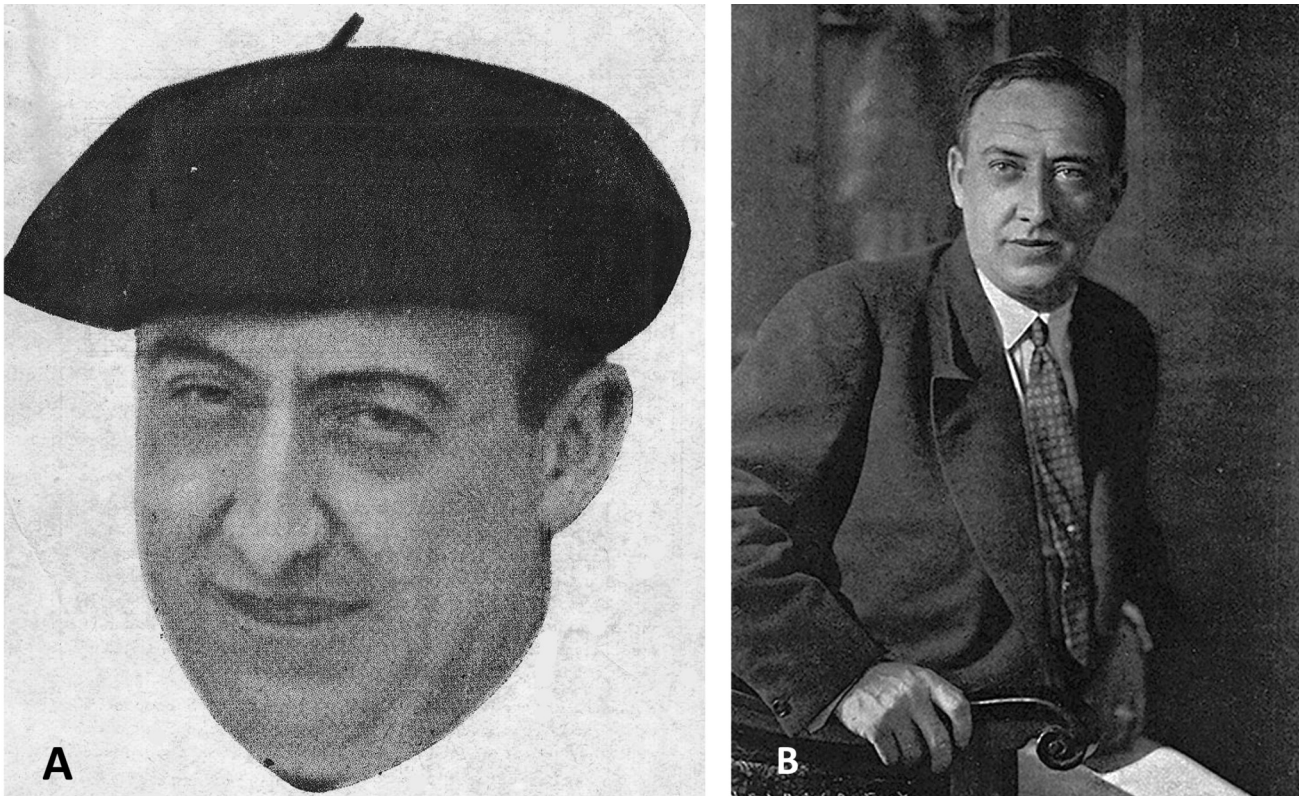


Figure 1. A) Photograph of the good doctor, who was seldom seen without his *txapela*. He tossed it to a cheering crowd at the port of Buenos Aires as he boarded for Spain. B) Dr Asuero, hatless this time, in the photograph published in *Asueroterapia fisiológica: ¡ahora hablo yo!*

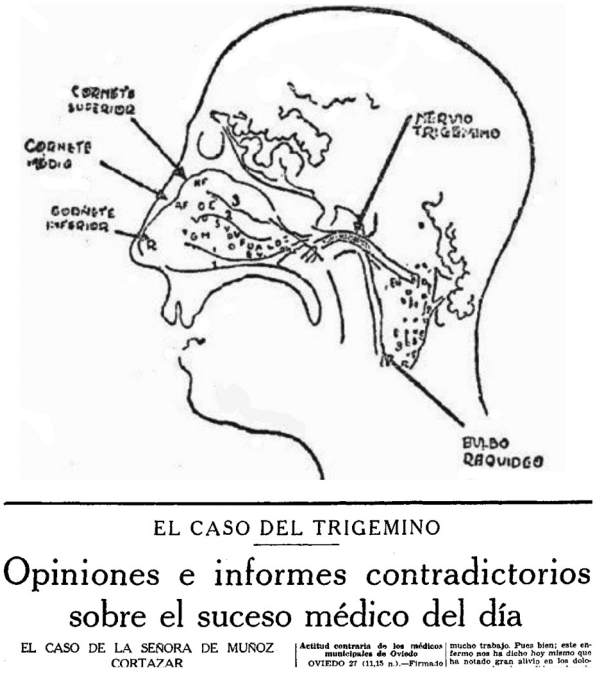


Figure 2. The newspapers published a rather nonsensical anatomical sketch purporting to show the connections between the trigeminal nerve and the medulla oblongata. At this time, Dr Asuero and his miracles appeared on the front page day after day.

first three months, working sessions of up to 16 hours long so as to accommodate an average of 60 patients a day. The 'Asuero phenomenon' made the first page of many of Madrid's newspapers, which were illustrated with rough anatomical sketches of the trigeminal nerve and its connections (Figure 2). Humorous pieces followed that poked fun at the ambiguous term with which Asuero referred to nerve branches: "Perfect health depends on the nerve string stimulated in the patient (the rheumatism string, the paralysis string, the heartstrings, and so on). Patients strung along on this treatment...are bound to get better" . The sketch then concludes, "The poor devils have no idea of the risks they run in undergoing this difficult operation" (Figure 3).

Meanwhile, Asuero remained on the defensive; he refused to talk to the press,[11] and his own unbroken silence provided another motive for criticism.[1(p35)] After the first two years, he confessed that he could not reveal his success rate since he still had to analyse his case reports. He did observe that his procedure "eliminates pain in all cases" .[12(p17-19)] Such was the experience of the chef at Hotel Príncipe de Saboya who spilled a pan of melted sugar on his arm while Asuero was treating patients on the premises. "I have no severe or even mild pain, but rather a sensation of coolness that I cannot account for", reported the unfortunate chef after receiving the famous trigeminal treatment.

Just two months after his spectacular rise to fame, Fernando Asuero made his way to Madrid. The Palace of the Marquesses of Bermejillo del Rey, where he was staying, was quickly surrounded by a crowd of crippled, paralytic, blind, and deaf citizens who could barely be restrained by the police. Ladies threw themselves at his feet, begging him to attend to family members. He was received by General Miguel Primo de Rivera, Spain's prime minister, who made the most of the occasion by asking him to bump various aristocrats to the head of the waiting list. He returned to San Sebastián, and his appearances on his balcony were cheered by excited onlookers with whom

Figure 3. Satirical sketch published in *Buen Humor* on 26 May 1929

he shared the flowers that were delivered to him day after day. During his luncheon at Hotel Cristina, he was welcomed by a local troop of *chistularis*, Basque folk musicians. Asuero was now at the pinnacle of his success, but he would soon face harsh criticism from leading doctors of the day, who went so far as to dismiss his method as quackery. Asuero took advantage of his audience with Primo de Rivera to make the following statement in a historical telegram: "I insist on receiving compensation for this insult to my dignity...brought about by the villains who have plotted against me so dishonourably".[4(p35)]

'Asuerotherapy'

But what did Asuero's technique consist of exactly? Dr Aurelio Gutiérrez Moyano from A Coruña was allowed to sit in on Asuero's sessions, and described the procedure as follows:

> Using a mirror and a speculum, and from time to time seizing a cautery or a simple probe heated in a flame [Asuero patented this instrument shortly afterwards], the doctor touches different regions within the nasal cavity, on either the right or the left side. Although he uses no anaesthesia, patients feel no pain whatsoever. The process is complete in just five minutes. Then, in vigorous, authoritarian tones, Asuero orders the dumb to speak, the paralysed to move, and the lame to flex their painful limbs.[13(p58)]

A recently-discovered short silent film, recorded in 1929, shows how the Basque doctor went about his business of 'Asuerotherapy'. In the film, Dr Asuero, eschewing the traditional white coat, inserts a probe with a rosette-shaped tip into a patient's nostril. Without using a rhinoscope to check the probe's location, he applies pressure four or five times, finishing the procedure in about five seconds. The film also shows the long line of patients waiting for treatment along the bank of the Urumea.[6] This film was recorded by Nemesio Martínez Sobrevila by order of General Primo de Rivera. Strangely enough, just before it was to be shown publicly in a Madrid theatre, the film was prohibited by order of the Directorate General for Se-

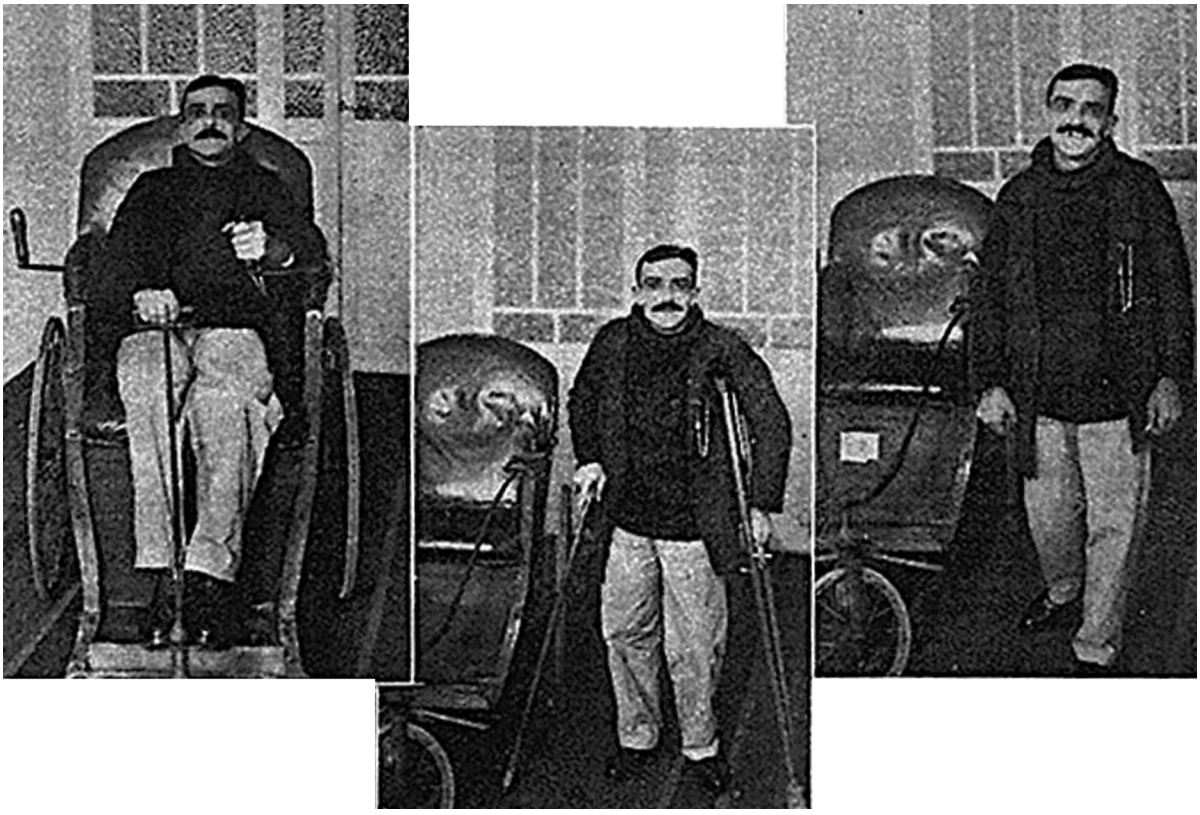


Figure 4. Spectacular results in a patient diagnosed with "paralysis due to gunshot wound", in three stages: wheelchair, crutches, and walking unaided.

Figure 5. Patient with what appears to be spasmodic torticollis manifesting as laterocollis. She was cured by cauterising the nasal mucosa.

curity. This decision may have been a response to pressure from prestigious doctors. Different documentaries have examined the life of this famous Basque doctor in recent years, but none of them seem to be very accurate.[14]

Arise and walk: spectacular cures for neurological patients

Dr Asuero's grandchilden inherited more than just his set of probes. They also possess a collection of orthopaedic devices, crutches, and wheelchairs that grateful patients left in Asuero's office like so many votive offerings. Some went so far as to call him 'Dr Lourdes'.[1(p2)] Leaving aside cases of chronic pain, the patients with the most spectacular recoveries were those afflicted by hemiplegia, tabes dorsalis, and other neurological disorders that rendered them unable to walk. I should mention the case of a "distinguished lady of San Sebastián", described by Asuero himself.[12(p43,44)]

> She had been bedridden for five months and tormented by pain that nothing, not even spinal injections, had been able to alleviate. The patient had been spending her days in the lateral decubitus position with her limbs flexed. A cursory examination revealed patent muscle atrophy and loss of sensation in one of her legs. When I began the stimulation process...my colleagues' half-hidden smiles showed their scepticism. I told them to prepare themselves for an extraordinary sight, and immediately ordered the patient to extend her lower limbs...She was able to do so easily...and a month later she had regained her noble bearing and love of life".

The Basque doctor used photographs to document some of his more spectacular successes. These images appear in his book *Asueroterapia fisiológica: ¡ahora hablo yo!*[12] [Physiological Asuerotherapy: My turn to speak!]. One shows a patient named Gregorio Capellán who had received a gunshot wound. After treatment, he immediately abandoned both his crutches and his old-fashioned wheelchair (Figure 4). Asuero also saw patients with movement disorders, including Dolores Linares, who lived in nearby Biarritz; he cured her of what seemed to be spasmodic torticollis with sustained laterocollis (Figure 5).

The case of Alberto Sánchez Miguel, a Guardia Civil officer from the garrison at Oviedo, was particularly intriguing. Despite his lack of neurological studies, Asuero diagnosed the patient with progressive locomotor ataxia "based on typical gait, a very clear Romberg sign, and complete loss of muscle tone".[12(p135)] The first intervention

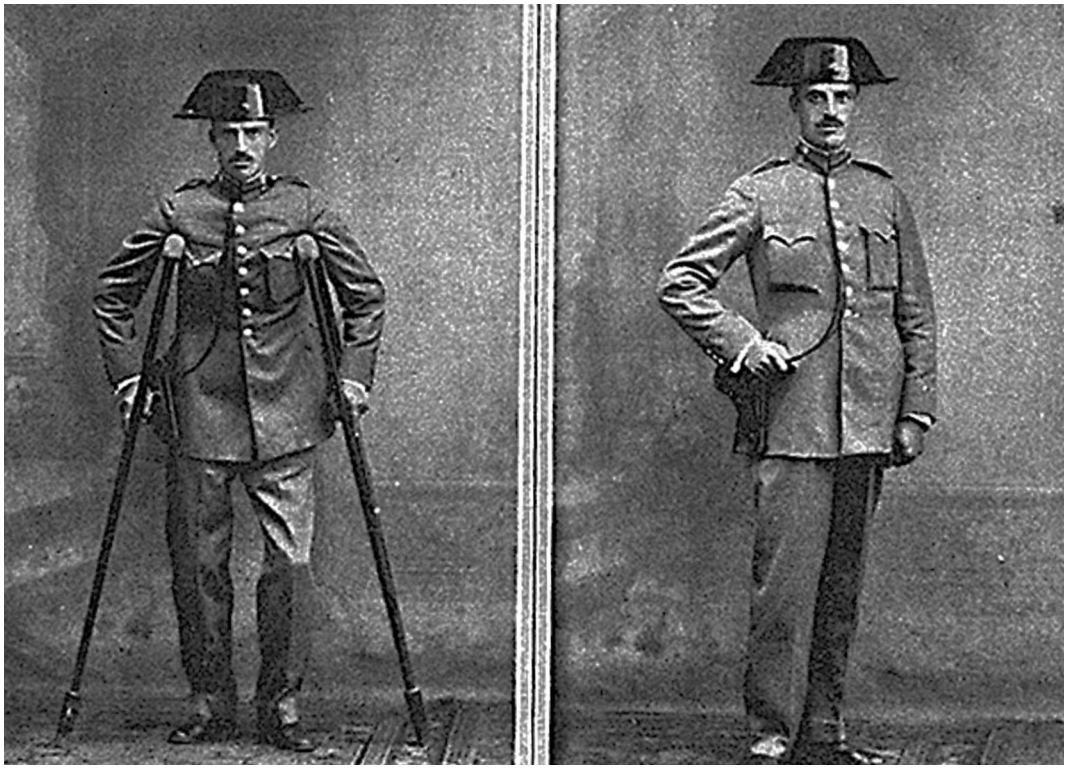


Figure 6. A hasty neurological examination of this member of the Guardia Civil led Asuero to detect typical manifestations of tabes dorsalis. In the second photo, the patient adopts a belligerent stance after having supposedly been "cured by the first intervention".

produced instant results: "he put aside his crutches, which he has not needed since". The patient is in fact shown standing with the aid of two crutches in the first photograph, while the second shows him in a fully upright, combative stance, with his right hand over his holster (Figure 6). Results for Joaquín Orrantia, the Colombian consul to the United Kingdom, were not so exceptional. While in Paris, he had visited Babinski, who treated his tabes dorsali with injections of compound 606 (Salvarsan). Although Asuero's nasal 'touches' were unable to cure him, "they did improve his ability to walk considerably, and he can now move about with a single cane".[12(p94)]

Figure 7. Photomontage of little Suzanne flanked by her intricate orthopaedic devices. She left her supports with Dr Asuero as if they were votive offerings.

Asuero's desire for good publicity is manifest in the cases that he presented to the press. Another example is his photomontage of the case of Suzanne Broquedis, a girl with infantile paralysis who had journeyed from Boucau, near Bayonne. In only eight days, her improvement was so pronounced that Dr Asuero removed her complicated orthopaedic devices, shown here on either side of her portrait (Figure 7).[12(p147)] Careful examination of the photographs taken to illustrate the doctor's miracle cures reveals painted backdrops like those commonly used in professional photography studios in the early years of the century, but which would have been incongruous in a doctor's office. Examples include the patient from Valmaseda (Figure 8) and Paquito García (Figure 9). Anoth-

er interesting example features Gerardo M. Lasalle, who had been treated without success by Dr Soler in Madrid. Photographed against the backdrop used with the patients listed above, Lasalle raises his left hand to his back as if to indicate the source of his pain. He is then shown standing in the same spot and displaying completely normal posture (Figure 10). Reviewed together, these powerful images seem to have been artificially staged, and while the patients are real, they may have been coached. In any case, they do not appear to have been taken in a typical doctor's office.

Asuero did not make indiscriminate use of his method to treat all types of illness. For example, he instructed his assistants not to accept patients with Parkinson's disease unless they were in pain. Nevertheless, one grateful family wrote to report that "the tremor has disappeared along with his difficulty speaking and swallowing, and his stubborn constipation has cleared up".[12(p56)]

Imitators began to spring up in every province in Spain, and they were reported to have similar results. In Málaga, Dr Bolívar was having no luck treating a patient who had been paralysed for ten years. Cauterisation, however, proved to be effective within three hours. Once the patient had been taken home, he unexpectedly stood up. To the astonishment of his family, he began to jump about and then went outside, where he proved he was cured by "lifting a large stone".[13(p92)] In Oviedo, Dr José Fernández Vega practised the technique on Pío Cano, "placed in an institution eleven years before due to right-sided paralysis. After the third procedure, he stood up and left the hospital room without the aid of crutches", *La Voz* reported on 15 May 1929. Just a few moments after undergoing a normal cauterisation procedure, an employee at the Barcelona slaughterhouse "whose sight was nearly gone" leapt up and shouted, "I can see".[13(p66)] One man from Puertollano, a patient in the St. Augustine ward of the Ciudad Real Hospital, had a similar experience following treatment, and "suddenly left the room at a run".[13(p76)] In Bilbao, Dr Gerricaechevarría reported excellent results "in a patient unable to use his legs", as published by the *ABC* on 22 May 1929. These are just a few examples of the cases that made it into the newspapers on a daily basis.

Figure 8. This man from Vizcaya province was said to be cured by the first intervention, even though the image clearly shows flexion of his right arm. Note the backdrop, which would be more appropriate in a photographer's studio than in a doctor's office.

Figure 9. The same backdrop can be seen behind young Paquito García, who was able to shed his crutches, although we see that he still needed some support in order to stand.

Ample experience was not regarded as a requirement; the technique was practised by dentists (sometimes on themselves),[3(p24)] and even by medical students. In Dr Oliver's office in Hospital Clínic (Barcelona), a third-year student was permitted to perform cauterisation on Asunción Domenech, a severely crippled young lady of 23. She immediately rose and began walking around the room, and we can only assume that the student was amazed.[13(p68)]

It is obvious that the press, especially *El Sol* and *La Voz,* exaggerated the magnitude of these reported cures. One patient whose case would make waves was the wife of Dr Muñoz Cortázar, the director of Hospital del Buen Suceso in Madrid. She had been bedridden and in terrible pain for seven years due to spinal compression secondary to Pott disease, according to several specialists, including the neurologist Martín Carrasco. She was the first patient treated with this method in Madrid, and four doctors eagerly watched the procedure. After she underwent cauterisation, her pain subsided instantly and she got to her feet. This event made the headlines in different newspapers.[15] Marañón felt compelled to provide a more nuanced analysis in a letter appearing in both *El Sol* and *La Voz*. He argued that we should not mistake 'relief', which would presumably be temporary and mediated by psychological influences, with a 'cure', that is, the full disappearance of lesions and their sequelae. Crespo Álvarez, one of the doctors who witnessed the treatment, pointed out that in addition to her pain and spasm relief, "the patient expelled a large amount of wind anally". Whether or not this constituted the source of her relief, "this made it possible for us to sit her up (she could not sit up by herself)". A few days later, her pain returned, although it was noted that "she could move her legs a little".

Pierre Bonnier and his *centrothérapie*

Although Asuero flatly denied any link between his method and Pierre Bonnier's 1913 treatise,[7] it must be said that 'centrotherapy' and 'Asuerotherapy' are similar in many respects. For example, they mention the medulla oblongata's supposed state of hyperexcitability and its connections with the trigeminal nerve, and that stimulating the nasal mucosa restores a state of equilibrium that might be mediated by vasomotor mechanisms. The French doctor's method was more elaborate than

Asuero's. Bonnier speculated as to the relationships between distinct zones of the nasal mucosa, supposed specific nuclei within the medulla oblongata, and different types of diseases that would lessen following stimulation of the right nasal area. Some said that his office was decorated with the Chinese acupuncture charts that inspired his work (Figure 11). Bonnier's book presented one syndrome after another in dictionary format, and each entry contained the doctor's own observations. One 49-year-old woman diagnosed at La Salpêtrière with hereditary cerebellar ataxia, "seemed to walk better after a few cauterisation sessions".[7(p49)] A pianist with Parkinson's disease was able to play again after having been unable to do so for two years. One of the seven tabetic patients undergoing this treatment reported feeling so much better that he was able to walk from Square Louvois to the Arc de Triomphe in Paris.[7(p251-256)] At Hôpital Bicêtre, Nageotte let Bonnier treat 17 epileptic children, but they showed little to no improvement in seizure frequency.[7(p132)] Naturally, Bonnier's 'centrotherapy' produced its best results as treatment for neuralgias affecting different locations.

In any event, Bonnier had far less success at treating neurological disease than did his Spanish counterpart. Certainly none of his observations report wheelchair-bound invalids springing up and walking after cauterisation.

Asuerotherapy under fire

Asuero's refusal to explain the theoretical basis of his method was met with barbed criticism from Spain's most eminent doctors. Similarly, he did not respond to pressure from the General Council of Medical Associations. "My sole aim", he insisted,"is to dispose of the time to treat patients of all types without responding to demands and being embroiled in controversy".

Lafora, on the other hand, had a reputation for being as confrontational as he was honest and principled. He was

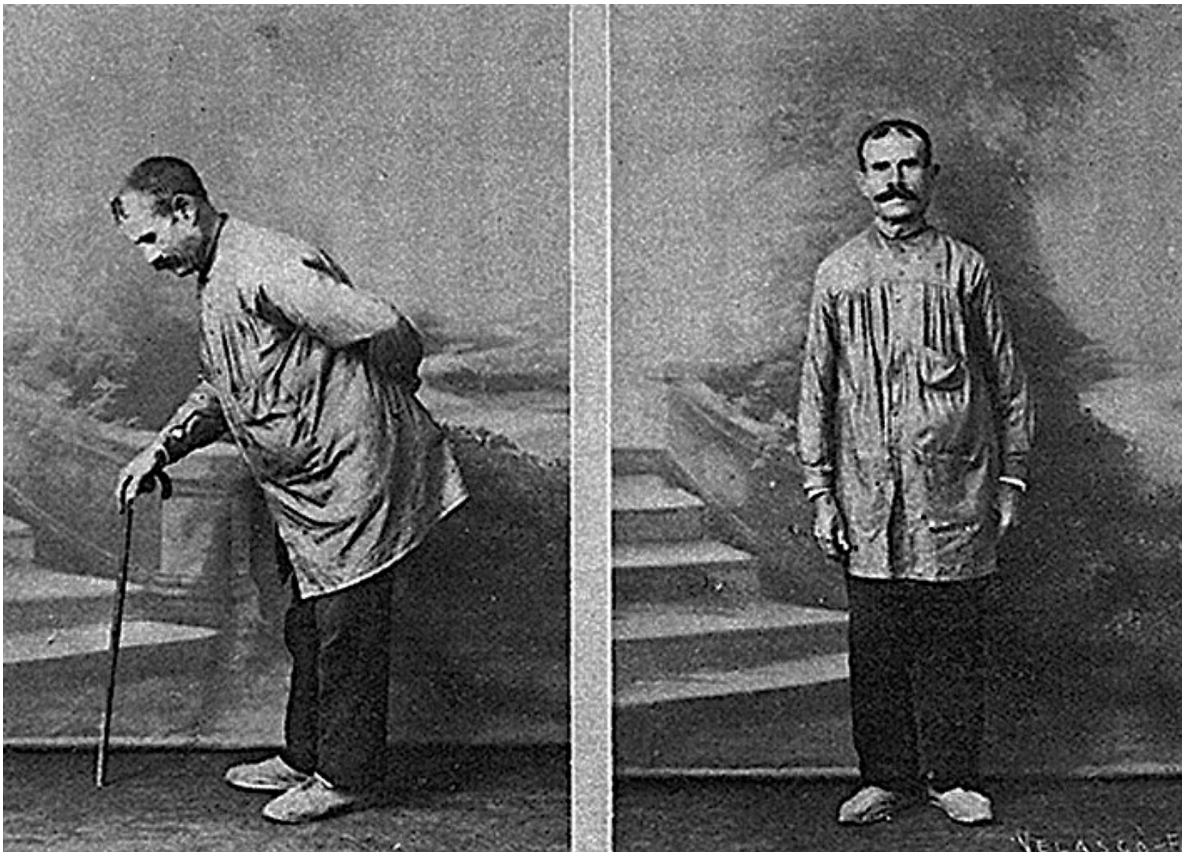
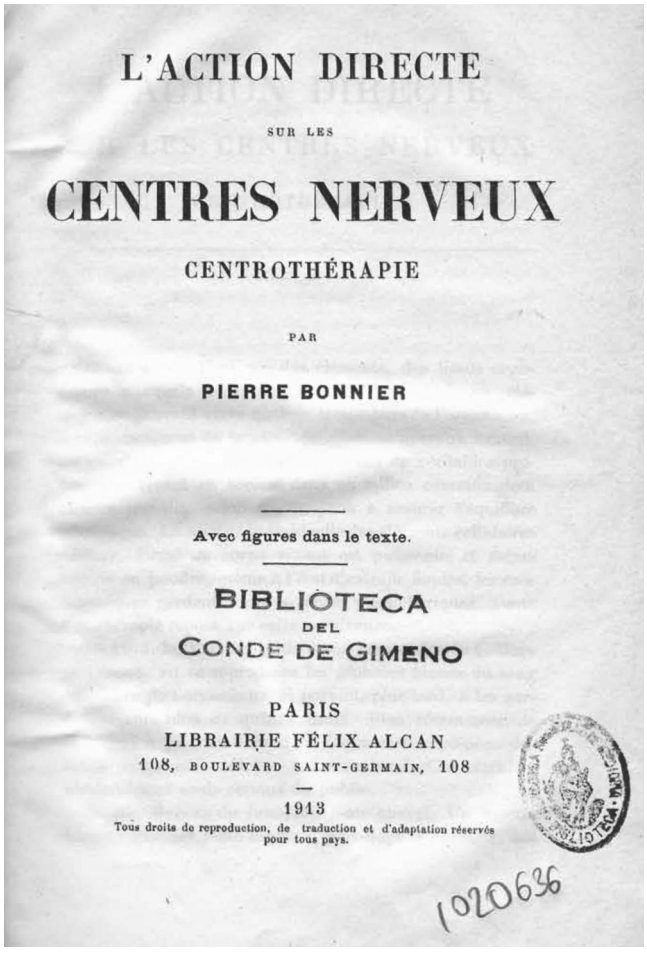


Figure 10. A similar backdrop appears behind Gerardo M. Lasalle, who had been unsuccessfully treated by Soler in Madrid. In the first photograph, the patient appears to be using his left hand to point to the source of his pain. His antalgic posture disappears with the correct course of cauterisations.


L'ACTION DIRECTE

SUR LES

CENTRES NERVEUX

CENTROTHÉRAPIE

PAR

PIERRE BONNIER

Avec figures dans le texte.

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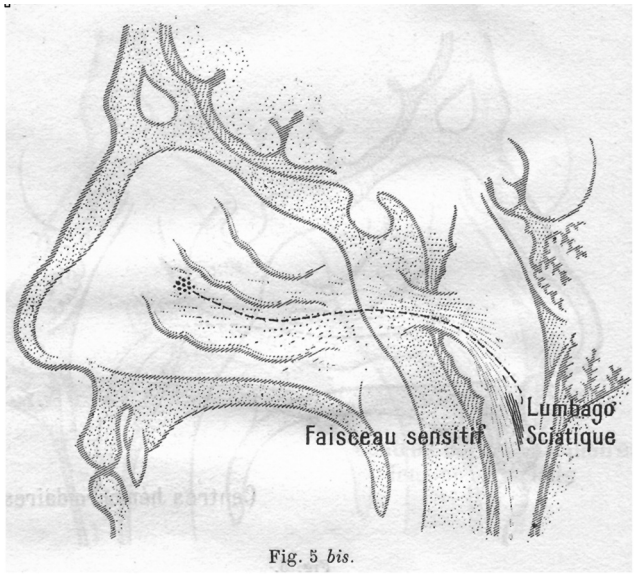

Fig. 5 *bis*.

Figure 11. Cover of Pierre Bonnier's book on 'centrotherapy'. Its diagrams indicate specific connections between different areas of the nasal mucosa and centres in the medulla oblongata supposedly corresponding to specific ailments. The image selected here shows the area involved in treating lumbar pain and sciatica.

also known for being particularly hostile to medical quackery.[16] He dedicated three articles to the Asuero phenomenon in *El Sol*, a newspaper that frequently published his letters. Lafora dedicated serious thought to the technique's possible scientific basis, and concluded that "coagulating the nasal mucosa and its nerves may have a beneficial effect on certain types of pain and disorders of local vascular origin". Nevertheless, he highlighted his suspicions about Dr Asuero's propaganda, and about the doctor's refusal to explain the action mechanism of a method he claimed could cure everything from epilepsy to stomach ulcers. Some of his treatment decisions were branded imprudent. He suspended drug treatments for patients with tuberculosis,[17] and even those with 'essential epilepsy'; Asuero insisted that antiepileptic drugs "had harmful effects on the body". Asuero claimed that his patients who had suffered daily seizures would remain seizure-free for a month and a half.[12(p65)] He discontinued bromide and Luminal in a bank clerk who had been epileptic since the age of 14, and even so, the man remained seizure-free for two months. Asuero believed that the reduction in seizure frequency was the result of the constipation relief that his method provided.[12(p80)] I can actually recall this method still being recommended as treatment for constipation at Hospital Provincial in Madrid in the 1960s.

Dr Adolfo Hinojar, who also applied Asuero's method in his ward at Madrid's Hospital General, also provided vague speculations about the physiological mechanism behind Bonnier's 'centrotherapy'. He published his views in *El Sol* on 11 May 1929: "The equilibrium restored to the medullary centres after applying cauterisations to the turbinate areas would act like a smack to the head…The trigeminal nerve extends like a tube to reach the medulla oblongata", explained Hinojar, one of Asuero's staunch supporters.

Asuero discredited: his journeys abroad

In late May of 1930, Asuero claimed to have treated some 8000 cases.[12(p264)] In early June of this year, the newspapers reported that he was in a state of exhaustion and needing rest. Fleeing from his fame and glamour, he holed up in Cihuri, a small town in La Rioja. The town still boasts a square named after him.

While he was generally reputed to be greedy and grasping, his neighbours in San Sebastián spoke of his generosity. "Today, I treated sixty patients...and I only earned two *duros*", he told the mayor of San Sebastián on one occa-

sion.[1(p36)] He was embittered "by the campaign against me, especially that led by my own colleagues". Asuero was called a quack, and he even cut one of his conferences short when the audience became unruly, as reported in *La Vanguardia* on 11 February 1930.

In the end, he left the country. He travelled through France, Italy, and Cuba before landing in Buenos Aires on 24 April 1930. He lodged in the Hotel Español. The newspapers published accounts of innumerable diseases that he successfully treated, but just 67 days later, he was forced to make a hasty exit. Just after paying a visit to the Casa Rosada as President Irigoyen's honoured guest, he was apprehended by the police and imprisoned under charges of practising medicine without having obtained authorisation to work in Argentina. In June, he returned to Spain on board the steamer Alcántara, still fuming about the "inhospitable treatment received in Argentina". His attempt to settle in Italy was equally unsuccessful. In December 1929, an Italian senator alerted Mussolini to the fact that Asuero was practising medicine in that country without the appropriate licence, and Asuero was promptly deported.

Remarks

The 'amazing cures' of Dr Asuero, as they were called, constituted a singular social phenomenon occurring from 1929 to 1930 in Spain. In just two years, some 8000 people from all across the country had flocked to receive treatment from a virtually unknown otorhinolaryngologist who applied a very simple procedure. This situation should not be mistaken for mass sociogenic hysteria, a phenomenon that typically appears in tightly-knit groups in response to a credible threat.[18]

The most consistent effect of what the doctor called 'Asuerotherapy' was pain relief. This effect occurred "in a hundred percent of the cases" regardless of the cause of the pain. The press had made Asuero a celebrity, and his mere presence had a spectacular effect on patients. He made this known in comments published in *La Voz* on 9 July 1929: "My technique is well-known, given that many of my colleagues employ it. At this point, I would like to state categorically that I can provide total relief from pain with this procedure. *No one but myself is able to achieve this result*" (emphasis added). While an explanation was lacking in those days, we now know that at the neurobiological level, the mechanisms for analgesia caused by the placebo effect are similar to those for analgesia caused by drugs. Endogenous opioids, cannabinoids, and cholecystokinin are released, and they modify areas involved in nociception: the dorsolateral frontal cortex, anterior cingulum, and subcortical areas including the hypothalamus, amygdala, and periaqueductal grey. The fact that only Asuero was able to achieve such a high success rate can be explained by the psychological factors that favoured an analgesic response. One such factor is persuasion by the person administering treatment, as indicated above.[19,20]

Except in a few anecdotal cases, Asuero never bothered to examine his patients or take down their medical histories. A psychogenic origin can be suspected in many cases with neurological symptoms, whether these cases were treated by Asuero or by others using his method. This suspicion is not based on discrepancies in the medical history or neurological signs, but rather on the spectacular recoveries of patients who ran out of the treatment room moments after having received the magic dose of Asuerotherapy.[21] Asuero himself probably suspected the psychogenic nature of these cases when he wrote the following for *La Vanguardia* on 26 May 1929: "I am no genius. I merely maintain that my procedure, *which is useless against an organic lesion*, produces astounding results in other nervous disorders such as functional paralysis (emphasis added).

Dr Asuero's cures provide a historical illustration of the placebo effect applied to an impressively large group of patients. The good results he achieved were very often real rather than imaginary, even if they occurred through mechanisms that have yet to be explored. In organic processes affecting the nervous system, such as Parkinson's disease, expecting to feel relief immediately after a placebo treatment can be explained by mechanisms resembling those caused by certain antiparkinsonian drugs.[22] The magic of these long instruments probing the depths of the nasal cavities, the buzz of the press that magnified Asuero's miracles, and the long line of patients anxiously waiting at his office door are all psychological factors that would have contributed substantially to the doctor's success.[23]

In Dr Asuero's day, the placebo effect was a phenomenon that had barely been guessed at. In fact, Lafora examined the possibility that nasal cauterisation could elicit a real therapeutic effect.[17] Nevertheless, back in the eighteenth century, Van Haller had explained the differences between 'irritability' (muscular response to physical excitation) and 'sensitivity', a property of the nerves and brain.

He suggested that responses mediated by these latter structures could be acted upon by the *animae* or mind.[24] Sherrington had also proposed an integrative response by the nervous system that included the possibility of a higher level of conscious control.[25(p388,389)] In any case, the most prestigious doctors of Asuero's time viewed his 'miracles' with deep suspicion. Cajal, for example, put forth a scathing opinion in his book *Charlas de café*: "As for this trigeminal business, it does not follow any scientific principles and I cannot lend it any credence".[26(p380)]

In conclusion, "Dr Asuero's astonishing cures" provide an interesting historical example of how the placebo effect has contributed to healing neurological processes of psychogenic origin. They also illustrate the frequency of such processes in the early 20th century in Spain.

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