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Psoriasis treatments in Europe during the 19th century

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Abstract

Psoriasis is a dermatological disorder whose clinical manifestations have attracted the interest of physicians since ancient times. Hippocrates of Kos in the 5th century B.C. and later Galen in the 1st century A.D. were the first to refer to skin lesions characterized by scales and itching. In the 19th century, dermatology progressed, gaining scientific autonomy and leading to improvements both in the clinical study of psoriasis and in the search for new treatment methodologies. The dermatological schools established in this century, located in London, Paris, and Vienna, dedicated themselves to studying skin diseases, adopting unique methodological approaches, and creating dermatological nomenclature. The English school focused on the objective description of lesions, while the French school was the first to approach the study of evolutionary processes, formulating theories not always based on experimental methods. Finally, the Austrian school based its research entirely on the study of diseases through the use of instruments and laboratory tests. Representatives of all three schools played a crucial role in the scientific progress of dermatology, leading to the subsequent evolution and improvement of therapies, which gradually replaced the use of ancient remedies and archaic administration methods. The treatments promoted by the different 19th-century European dermatologists reflected both their scientific thinking and the medical beliefs of the time. For this reason, the following historical-medical reconstruction of the evolution of psoriasis therapies in the 19th century can contribute to enriching the studies of dermatology.

Key words: psoriasis; dermatology; skin diseases; history of medicine; history of dermatology.

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Introduction

Psoriasis is a dermatological condition that throughout history has been called by various names, described in many ways, and treated with dozens of remedies. Psoriasis began to be systematically described in the 19th century, and by the end of that century, the main clinical variants had been established, forming the basis of the classification still used today. Despite descriptions by various dermatologists in the 19th century, the etiology and pathogenesis remained largely unknown.

In this article, we attempt to outline the therapeutic approaches of the three major dermatological schools of the 19th century: the English, French, and Austrian.

Initially, numerous authors focused on cataloging psoriasis by coining terminology and objective descriptions. The different nomenclatures caused general confusion about the disease, as it was classified based on the quality of clinical manifestations and the location of lesions. In this way, varieties of psoriasis multiplied.

The therapies devised by the representatives of the three schools constitute the final result derived from the methodological approaches applied to the study of dermatological diseases. The treatments promoted by the different dermatologists of the 1800s thus reflected their scientific thinking and medical beliefs.

The advent of the Austrian dermatological school in the mid-19th century introduced a new scientific method based on collaboration between different medical disciplines, which allowed the investigation of various pathological processes. The multitude of psoriasis varieties was reduced because it was distinguished from other diseases, and the different evolutionary stages of the lesions were recognized. This new perspective allowed dermatology to be simplified, leading it into modernity.[1-4]

The English school

Robert Willan (1757-1812) is considered the founding father of the English school of dermatology. Through his research, he made significant contributions to the development of dermatology as an independent discipline. Starting in 1783, he served as a physician at the Carey Street public dispensary in London, where he encountered patients suffering from skin diseases. His studies primarily focused on creating a new nomenclature for dermatological diseases, leading to the publication in 1808 of his work titled *On Cutaneous Diseases*. Willan's research methodology was entirely based on observing the morphological manifestations of skin diseases, carefully describing the lesions, and providing a precise lexical definition of the diseases. However, this scientific approach excluded both the etiological and pathophysiological components.[4-7]

Dermatoses were classified into eight orders, with psoriasis specifically being placed in the second order, called "squamae", and subdivided into eleven types based on severity and localiza-

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tion: guttata, diffusa, gyrata, infantilis, inveterata, palmaria, labialis, ophthalmica, praeputii, scrotalis, unguium.[8] After a brief discussion on the ineffectiveness of ancient treatments, Willan proceeded to explain the therapeutic approaches to be adopted. The most effective and widely used treatment for guttata, diffusa, or gyrata psoriasis, aggravated by a febrile state, involved an initial internal administration of an emetic decoction of ipecacuanha, followed by purgatives such as calomel grains. This initial patient preparation was followed by external treatment with alkalis combined with sulfur precipitate, complemented by warm water baths and a light diet. If the scales had not been treated beforehand, the base therapy was extended by friction with antimonial preparations and the use of decoctions of herbs such as sarsaparilla or dulcamara. For localized psoriasis, in addition to standard therapy, the following was recommended: the use of ointments made from mercury nitrate dissolved in wax, baths with warm water or oatmeal, and bran to alleviate itching and soften the plaques of psoriasis.

The principles outlined by Willan were later expanded by his student and successor Thomas Bateman (1778-1821), who published *A Practical Synopsis of Cutaneous Diseases* in 1813 and the dermatological atlas *Delineations of Cutaneous Diseases* in 1817 (Figure 1).[9,10] The research methodology and approach to dermatological studies adopted by Willan and Bateman gave rise to a distinct English dermatological school of thought. The school saw a succession of highly regarded physicians who contributed greatly to the development of dermatology, including Erasmus Wilson (1809-1884), who published *Diseases of the Skin* in 1857, presenting a new methodological approach to dermatological research based on the microscopic study of skin tissues. He introduced a new classification of skin diseases, grouping them into four categories according to the nature of the morbid process rather than the previous objective morphological criteria.

Wilson's nomenclature became a landmark for the English school in the second half of the 19th century, thanks to his meticulous descriptions of pathological conditions and iconographic depictions. His studies gained widespread recognition both nationally and internationally, although they have not led to scientific advancements in the field of dermatology.

Psoriasis gained an independent clinical dimension, but treatments remained almost identical to those of Willan, with the only exception being the use of *liquor hydriodatis arsenici et hydrargyri*[a] (a solution of arsenic triiodide and mercuric iodide) along with baths for psoriasis.[11] Infantile and localized psoriasis were treated by Wilson with: "A weak solution of nitrate of silver, a lotion of sulphate of zinc, the diluted nitrate of mercury ointment, the calomel or zinc ointment".[12]

The English dermatological school was characterized primarily by its objective approach to the study of skin diseases, which allowed it to achieve success throughout Europe. English dermatologists meticulously described the morphology of clinical manifestations, but they refrained from making new inferences and avoided formulating uncertain theories.[4,13,14]

The French school

The foundation of the French school of dermatology is linked to the figure of Jean Louis Alibert (1768-1837), who devoted his entire career to the study of skin diseases. In 1803, he was appointed physician at the Hôpital Saint-Louis in Paris and immediately dedicated a hospital pavilion to the reception and treatment of dermatological patients. His daily interaction with patients and his constant study of skin diseases led to the publication of *Description des maladies de la peau observées à l'Hôpital Saint-Louis* [Description of skin diseases observed at Saint-Louis Hospital] in 1806. In this work, Alibert presented a new classification of dermatological diseases based on the so-called "natural method", founded on the idea that each disease had a specific nature, with its causes, natural course, duration, symptoms, and response to therapy. The new French nomenclature, however, did not help to clarify the confusion surrounding dermatology; on the contrary, it exacerbated it by using an arbitrary cataloguing principle, often based on incomplete descriptions, multiplying medical terms, and

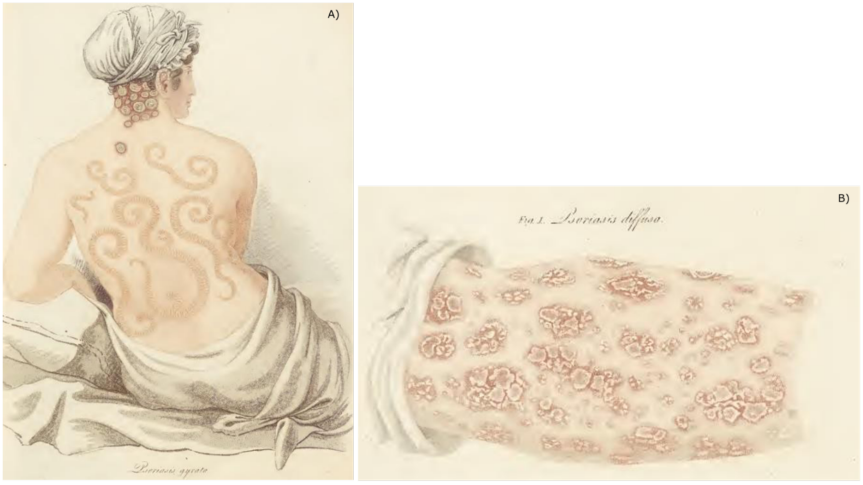


Figure 1. Bateman T. Delineations of cutaneous diseases. London: Longman; 1817. **A**) Plate XII: gyrate psoriasis; **B**) Plate XIII: diffuse psoriasis.

[a]*This preparation was introduced by Mr. Donovan, a chemist of Dublin, and is supposed to combine the virtues of its three ingredients. The doses were the 24 grains of deutoxide of mercury and about 1/4 of a grain of iodine in distilled water.*

employing them incorrectly.[5]

In 1833, Alibert published *Clinique de l'Hôpital Saint-Louis, ou Traité complet des maladies de la peau* [Clinic of the Saint-Louis Hospital, or complete treatise on skin diseases], in which he used the term "*psorique*" to refer to skin conditions primarily characterized by itching. In this work, he described skin lesions related to psoriasis but classified them under different names.

The remedies proposed for these conditions were drawn by Alibert from pre-existing scientific literature. Baths remained the cornerstone of treatment and were associated with both internal anti-inflammatory administrations, primarily based on plant-derived substances, and ointments made from ingredients such as silver nitrate, zinc or lead oxide, sodium or potassium sulfide, and mercury precipitate. These preparations aimed to cauterize older, more difficult-to-remove lesions.[15]

Despite containing numerous inaccuracies and issues, the works of the French physician sparked national scientific interest in dermatology as an independent discipline. Alibert was first appointed physician to King Louis XVIII (1755-1824) and later to Charles X (1757-1836), who removed him from the Hôpital Saint-Louis, and the role of head physician passed to his student Laurent-Théodore Biett (1781-1840). After visiting the Carey Street dispensary in London and meeting Willan and Bateman, Biett introduced the English theories to France.

Alibert vigorously defended his nomenclature, criticizing the scientific principles of Willan and Bateman, but, over time, the methodology of the English school proved to be more effective due to its simplicity. The most important French dermatologists of the 19th century adopted the English method and worked on creating new nomenclatures, making modifications to improve medical definitions. They went beyond the initial morphological criteria and expanded them to allow a better understanding of the various etiological, pathological, physiological, and evolutionary processes of diseases.[4,13,14]

In 1826-1827, Pierre François Olive Rayer (1793-1867) developed a new dermatological classification based on anatomy and pathological physiology, anticipating the studies of Ferdinand Von Hebra. In his work *Traité théorique et pratique des maladies de la peau* [Theoretical and practical treatise on skin diseases], Rayer placed psoriasis within the category of squamous inflammations and, following Willan's guidelines, identified four main types: guttata, gyrata, diffusa, and inveterata. He also described the principal locations of psoriasis, such as the scalp, face, trunk, scrotum, prepuce, palms, and lower limbs.

The therapeutic approach proposed by Rayer varied depending on the inflammatory state of the skin. Guttate and diffuse psoriasis were treated using emollient baths to alleviate itching and soften the plaques, and local bloodletting was performed near the affected areas. Similarly, inveterate psoriasis was treated using the previously mentioned therapy, but with the addition of ointments aimed at cauterizing the more stubborn plaques. The galenic preparations presented by Rayer included arsenical or cantharides tinctures, sodium sulfide, mercuric acid nitrate, mercurial ointment No. 11[b], or Autenrieth's ointment[c].[16] The clinical and therapeutic indications of Rayer were adopted by all subsequent French dermatologists, becoming the fundamental pillars of the French dermatological school.

Extremely innovative and cutting-edge was the photographic atlas of dermatological diseases created by Alfred Louis Philippe Hardy (1811-1893) in collaboration with the clinical photographer Arthur de Montmeja, published in 1868 under the title *Clinique photographique de l'Hôpital Saint-Louis* [Photographic clinic of the Saint-Louis Hospital] (Figure 2). This work is distinguished by its use of hand-colored photographs to reproduce clinical cases of

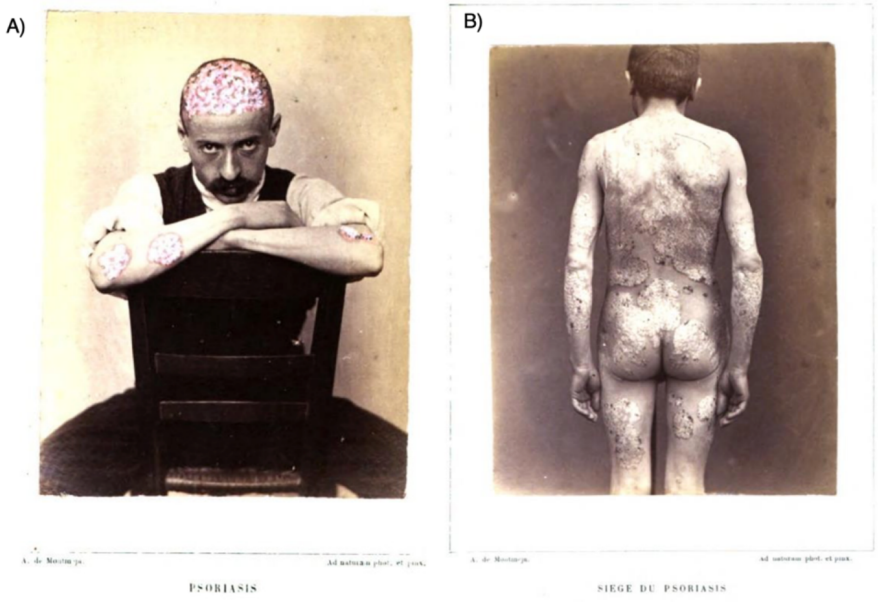


Figure 2. Hardy A, De Montmeja A. Clinique photographique de l'Hôpital Saint-Louis. Paris: Librairie Chamerot et Lauwereyns; 1868. Psoriasis and its locations.

[b]*This ointment was composed as follows: mercury subdeutosulfate, fat, and essence of bergamot.*
[c]*The formula of this ointment includes potassium ammonium tartrate and fat.*

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dermatological conditions. Hardy's work serves as a bridge between the English and French schools, as he starts from the descriptive approach of Willan but simultaneously adopts Alibert's methodology for studying the pathological course of diseases. This hybrid approach arose from the idea that "*La connaissance de la lésion principale n'apprend rien au médecin sur la nature de la maladie, ni sur le traitement qu'on devra lui appliquer. De là donc, la nécessité de ne pas s'arrêter à la forme extérieure des éruptions, mais de tâcher d'arriver à leur nature, de savoir à quelle catégorie de maladies elles appartiennent*"[17] ["Knowledge of the primary lesion teaches the physician nothing about the nature of the disease, nor about the treatment that should be applied. Hence, the necessity of not stopping at the outward appearance of eruptions, but striving to understand their nature, to know to which category of diseases they belong"].

Psoriasis was categorized by Hardy into the classic forms of guttata, diffusa, and gyrata, to which he added *punctata*, characterized by numerous small spots, and *circinate*, named for the circular shape of the scales. The locations of the eruptions were the scalp, face, prepuce, palms of the hands and feet, nails, and generally over the entire body.

Hardy divided the treatment methods for psoriasis into two types: external and internal remedies. The standard therapy, in addition to proper personal hygiene, remained the combination of emollient baths and topical galenic preparations, which could include ointments made from tar, proto-iodide, or mercuric nitrate. The internal medications recommended were arsenical preparations, such as Fowler's[d] solution or Pearson's solution[e].[16,18]

Ultimately, Hardy's stated goal was to "*En étudiant ses caractères d'éruption, ses symptômes, sa marche, sa terminaison, on peut la classer dans les grands groupes naturels que nous venons d'indiquer, et par cela seul qu'on la rangera dans une des classes désignées, on aura immédiatement une indication sur sa nature, sur sa marche, sur saterminaison probable, et surtout sur le traitement qui lui convient*"[17] ["By studying its eruptive characteristics, its symptoms, its course, and its outcome, one can classify it within the major natural groups we have just outlined; and simply by placing it in one of these designated classes, one immediately gains an indication of its nature, its progression, its likely outcome, and above all, the appropriate treatment"].

The Austrian school

Ferdinand von Hebra (1816-1880) and Moritz Kaposi (1837-1902) revolutionized dermatological doctrine in Vienna by developing an experimental method based on the combination of dermatology with other disciplines such as anatomy, histology, and general pathology.

In 1849, Ferdinand von Hebra took the position of head of the Dermatology Department at the Wiener Allgemeinen Krankenhaus (Vienna General Hospital), which was founded in the same year. However, it was not until 1869 that he was appointed professor of dermatology at the University of Vienna. Hebra immediately began studying skin diseases and, thanks to his anatomo-pathological knowledge, he created a new dermatological nosology.

Hebra developed a methodology based on the synergy of different medical disciplines, and this new scientific approach no longer focused only on the objective analysis of lesions and their potential pathological developments but sought to understand the pathological processes of diseases and the most effective treatments. In this way, he rationalized dermatology, eliminating all components still based on archaic theories, and gave dermatology scientific authority, propelling it towards modernity.[4]

In 1856, Hebra, in collaboration with the German dermatologist Felix von Bärensprung (1822-1864), published the *Atlas der Hautkrankheiten* [Atlas of skin diseases] (Figure 3), but international success was achieved with the *Lehrbuch der Hautkrankheiten* [Textbook of skin diseases], published between 1870 and 1876 and developed alongside his favorite student, Moritz Kaposi. This work presented his innovative dermatological classification, which was structured into twelve classes, each containing the respective diseases. For the first time, diseases were presented in this format: definition, history, symptoms and development, prognosis, etiology, diagnosis, anatomy, and therapy. The translation of this work into several languages allowed for the international spread of the theories of the Vienna school, thereby standardizing the nosology of skin diseases.[5]

Hebra succeeded in dispelling any doubts about the use of the term "psoriasis" by scientifically defining the condition. He classified the disease within the group of "scaly dermatoses" and, following the principle of pathological progression, recognized the following types of psoriasis: punctata, guttata, nummularis or circumscripta, gyrata, universalis, as well as localizations on the face, soles of the feet, palms of the hands, nails, and scalp.[19]



Figure 3. Bärensprung F, Hebra F. Atlas der Hautkrankheiten. Erlangen: Ferd. Enke, 1867, Plate XI: punctate psoriasis, guttate psoriasis, and orbicularis.

[d]*This solution, created by Thomas Fowler (1736-1801), an English physician and pharmacist, contained the following elements: powdered arsenic oxide, potassium proto-carbonate, distilled water, and lavender tincture to give color and flavor.*
[e]*Remedy is composed essentially of arsenate soda and distilled water.*

Hebra devoted ample space to antipsoriatic therapies and, above all, confirmed through direct experimental experience the true effectiveness of all types known up to that time. His text directly states: "The unsatisfactory results yielded by this plan led physicians to embark on an entirely different path, that of experiment and observation. Now, this path is, I must confess, the one that I myself follow exclusively in the treatment of skin disorders and, indeed, of disease in general. I attach no value to any remedies except those which (after repeated trials, and when I am accurately acquainted with the condition) I find to produce a favorable change in its course, or, in other words, to cure the patient".[20]

The Moravian dermatologist divided therapies according to the principle of internal and local administration. In the first group, he included purgatives such as sulfates, special mineral waters, and calomel; diuretics based on cantharides or plant extracts; and arsenic, which was incorporated into famous products like Fowler's solution, Pearson's solution, Donovan's solution, and Asian pills. As for local remedies, he included various types of medicinal baths and soaps; ointments with mercurous oxide, mercurous protoiodide, mercurous deutoiodide, and naphthalene; and tar-based ointments.[19]

Hebra's work led to the birth of a new school of thought and allowed Vienna to become the global center for dermatological studies, taking the primacy away from England and France. Hebra's designated successor was Moritz Kaposi, who continued the lines of research established up to that point and developed them further.

Kaposi's most significant work was *Pathologie und Therapie der Hautkrankheiten* [Pathology and therapy of skin diseases], published in 1880 and translated into several languages, becoming one of the cornerstones of international dermatology. Kaposi addressed the issue of psoriasis according to the method outlined by Hebra and firmly stated that there were no different types of psoriasis that required separate nomenclature, asserting that it was the disease itself that evolved and manifested in various forms. Kaposi expanded the section on antipsoriatic therapies by introducing new remedies.[5] The classic internal therapy, namely arsenic in the form of Asian pills or Fowler's solution, was complemented by a scientifically valid alternative according to the author: phenol acid in pill form, which produced results similar to those of arsenic.

The Hungarian dermatologist relied primarily on external treatments, and the most commonly used local antipsoriatic product by Kaposi was tar[f].[21] However, the real therapeutic innovation he introduced was chrysarobin[g],[22] which is described as follows: "All drugs heretofore known, however, are surpassed in their action upon psoriasis by chrysarobin". Despite this, Kaposi's efforts to find a definitive cure for psoriasis proved futile. He stated bluntly: "I have already stated that permanent recovery from psoriasis is unattainable by any method of treatment".[23] One of the most notable figures from the Vienna dermatological school was Heinrich Auspitz (1835-1886), who is associated with a diagnostic sign typical of psoriasis. He described the appearance of bleeding after the removal of psoriatic scales, a phenomenon known as the "Auspitz sign" or "sign of the blood dew". Although this sign had already been described in 1867 by Hebra in the *Atlas der Hautkrankheiten*, it was named the "Auspitz sign" because the work in which it was described, *General Pathology and Therapeutics of the Skin*, was translated in 1885 and became a precursor and cornerstone of European dermatopathology. Auspitz's studies were based on pathological principles, as he was trained under Carl Wedl (1815-1891), professor of dermatopathology in Vienna, and was also a friend of Salomon Stricker (1834-1898), the first professor of experimental pathology.[24,25]

Conclusions

From the second half of the 19th century, dermatological studies led to a fundamental advancement in scientific research concerning psoriasis.

The three European dermatological schools followed different methodological approaches: the English school focused primarily on the clinical description of diseases, the French school attempted to understand development processes through the formulation of theories that were not always experimental, while the Austrian school was entirely based on the study of pathology with the help of laboratory tools. Despite the qualitative shortcomings of the scientific approach in the three schools, each played an important role, and all contributed to laying the foundations of modern dermatology.

Ancient medical superstitions hindered the progress of science and were slowly eradicated. The refusal to treat skin diseases externally, or to treat them only minimally, for fear of compromising the internal humors, was one of the most harmful notions within dermatology. The advancement of clinical practices and the progress of dermatology led to the consequent evolution of therapies, which mainly improved in the methods of preparation and application of old remedies. At the same time, new and faster application procedures as well as more effective preparations such as pastes, plasters, lotions, soaps, and ointments have been introduced.

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[f]The tar for therapeutic purposes was a substance derived from the dry distillation of different types of wood and generally called oleum empyrheumaticum.

[g]Chrysarobine is a pale orange crystalline powder, odorless and light, which is extracted from Andira araroba Aguiar, a tree native to Brazil and belonging to the Leguminosae family. In its primitive form, the substance is historically called Goa or Araroba powder, and through hot benzene, it was extracted precisely as chrysarobine.

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