

THE MYSTERY OF HEINRICH HEINE'S NEURO-OCULAR DISEASE

by

Pierre Amalric

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Pierre Amalric (1923-1999)

Pierre Amalric was a French ophthalmologist, born in Velour sur Agouti, a small village in the south of France, situated 70 km from Toulouse. His father, Edmond, practiced general medicine. During his adolescence, Amalric showed no interest in medicine as a career, much to the disappointment of his father. Rather, he was interested in pursuing the humanities, arts, and history. During the German occupation of France in 1940, Pierre Amalric worked in his father's clinic. He entered medical school in Toulouse in 1940 and received there his MD. He also joined a liberal arts college to obtain a degree in history. He soon entered a network of resistance to the German occupation under the direction of one of his professors. From 1944 through 1945, he was assigned to various military units and hospitals. For a short time, Amalric practiced general medicine. He soon came under the influence of Professor Calmettes, a well-known ophthalmologist who became his mentor and changed the direction of his career to ophthalmology. He opened a clinic in the historic town castle of Albi. This was the beginning of his ophthalmic career.

Amalric's interest in rare books and history was evident when visitors got the honor to see his treasures (he owned among others a colored first edition of Vesalius's *Fabrica* and an also extremely rare complete *Myologie complete en couleur et grandeur naturelle etc.* by Jacques Gautier d'Argoty) in his large library situated above of his practice.

Amalric was much interested in fluorescein angiography. In 1969, he invited a group of internationally known ophthalmologists interested in fluorescein angiography to meet in Albi. The conference was a tremendous success, both scientifically and socially, and led to the formation of the Fluorescein Angiography Society, which subsequently met in Japan, Germany, and Italy (fig.1).

Amalric published about 670 articles on ophthalmology, history, art, and humanities, mostly in French. His main medical contributions were on choroidal circulation, the treatment of diabetic retinopathy, and a description of the Triangle Syndrome indicating choroidal infarction, which bears his name. The subject of his papers varied from the investigation of the mysterious disappearance of the ships of the explorer Laperouse, who was born in Albi, to the various eye problems of the French Revolutionary period. He was proud of his French heritage and intended to write a book on the history of French ophthalmology (was to be published by Wayenborgh). He received many awards related to his efforts to preserve French culture. The distinguished national awards included Officier de la Légion d'Honneur, Chevalier de l'Ordre National du Mérite, Croix de Guerre, Combattant Volontaire de la Résistance and Officier des Palmes Académiques. He was a member of the French Academy of Medicine.

About this paper

Pierre sent to me the following article about Heinrich Heine in 1998, a year before he died, with the intention to have it published in our journal *Historia Ophthalmologica Internationalis*.

Alas, our journal was interrupted after the publication (entirely in German language) of the first issue of volume 4 in 1998. That issue was sent at publisher's costs free of any charges to all the members of the Julius Hirschberg Society in Germany in the hope of raising a sufficient number of subscribers to keep it alive for the future. This goal was not reached and Amalric's paper, that was to be published in the second issue of volume 4, landed in my archives....

It is my pleasure, though 17 years late, to present Pierre Amalric's ultimate historic paper to our benevolent readers.

Jean-Paul Wayenborgh

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March 26, 1969

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Dear Dr. Amalric:

I regret to say that I will be unable to attend the Symposium. Again, I must thank you and any others for such an honor. I hope that you will read before the Symposium, the following paragraphs concerning discovery of this technique.

As a senior medical student at Indiana University School of Medicine, Dr. Novotny and I were employed as technicians for Professor John B. Hickam, Chairman of the Department of Medicine. He was devising a system of measuring oxygen saturation in the retinal circulation by photographic methods. Dr. Hickam and his colleagues have since written several articles about this subject.

Dr. Novotny and I both noticed that the crystalline lens appeared to fluoresce in the white light of the Zeiss camera. Because we were taking so many photographs of retinal vessels, we decided it would be interesting to try photographing fluorescence in the retinal vasculature. We looked up fluorescein in the Pharmacopeia and various other books, and calculated the proper exciting and emitting wave lengths of light. Looking through the list of various filters produced by Eastman Kodak Company, we decided on the two used in our original paper. The first photographs were taken of my right eye by Dr. Novotny. A copy of that original hangs in my office today.

After writing our article, Dr. Novotny and I submitted the article for publication to the American Journal of Ophthalmology, and it was rejected. Through the influence of Professor Hickam, the article was published in another journal. This is either irony or editorial oversight! Without Professor Hickam's help fluorescein angiography might not be enjoying its popularity today.

Best wishes and salutations to you and members of the Symposium.

Sincerely,

David L. Alvis

David L. Alvis, M. D.

DLA/jg
 DAL

Fig. 1: This letter was written by Alvis one of the two pioneers in ophthalmic fluorescein-angiography. Of particular interest is the 4th paragraph about the rejection of a corner stone paper on ophthalmic angiography by the American Journal of Ophthalmology. See also <http://www.opsweb.org/?page=FAhistory>

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Heinrich Heine

Heinrich Heine's complexity, both as concerns his personality and his work, is expressed by the themes he studied and the controversies he underwent.

Disciple of Hegel and friend of Karl Marx, his political militancy always continues through the works of Hermann Hesse and Thomas Mann.

In Germany, in spite of Chancellor Bismarck's admiration who ranked him second after Goethe, and of Elizabeth, Empress of Austria who erected him a statue in her palace in Corfu, the name and statues representing Heine were suppressed at the time of Nazism, which tended to destroy totally his work.

On the contrary, after the Second World War, Heine was considered as a founding Father of East Germany (DDR) which appropriated his written works favorable to universal socialism. Today, thanks to a full and accurate analysis of his writings, he has right to a favorable consideration of the whole.

The name of Heinrich Heine was given to the University of Düsseldorf and everywhere in Europe as well as in Paris, streets bearing his name have reappeared.

Born in Düsseldorf on December 13, 1797 in a medical Jewish family including some eminent doctors, Heinrich Heine was marked by the deep influence from his mother. She was aware of her son's intellectual values and wanted to get him, as well as both his brothers, a national consecration.

Heinrich Heine kept a lifelong memory of his childhood marked by a French occupation at the time of the Revolution and Napoleon's Conquest from 1795 to 1815.

The restrictions which were inflicted on Jews in Europe during the XVIIIth century were abolished by the "Code Napoleon" which proclaimed equal rights for all citizens in all occupied territories, particularly in Germany. Heinrich Heine always kept an admiring confused but real remembrance of the Emperor's role in this social revolution. Hence, some reminiscences of this period later in his poetries or in his friends Richard Wagner and Meyerbeer's melodies.

1815 was the end of the French Empire and the signal of a patriotic renewal in Germany in which Heine participated. But when he wanted to join the army, he was declared unfit for service because of his severe myopia.

His brothers left Germany and enjoyed a brilliant and comfortable life in St Petersburg as well as in Vienna. They started families who were honored close beside the established powers.

Around 1820, arriving first in Bonn then in Berlin, Heinrich Heine was disillusioned by the offences of a powerful aristocracy who imposed a lower status on Jewish people.

His studies in Berlin and in Göttingen noticed him as an exceptional intelligence. Student of Hegel at the University, he abjured Judaism to rise Doctorate. From that time, religion was no more a philosophical problem to him.

Without enthusiasm, Heine met Goethe who was growing old. He also integrated into clubs of students who were going to become famous, like his later friend Johann Dieffenbach, the Berlin surgeon who originated tenotomy for esotropia.

The spirit of Berlin's university turned towards liberalism and a wind of



Fig.2 Heinrich Heine in 1827

democracy was blowing upon the students. However, in Germany, there were no changes in the social hierarchy.

The cultural relations between France and Germany were important, following a tradition dating back to the time of Voltaire and Frederick II the Great. At the beginning of the XIXth century, Humboldt's personality dominated the scientific relations between the two countries.

For the French people, Madame de Staël's book about Germany was the undisputed reference. But, for the young romantic German people like Heine, it had nothing to do with reality.

The salon of Rahel von Varnhagen constituted the center of Berlin's intellectuals, particularly for the Jewish circle and the former pupils of the French Gymnasium, like

Chamisso and La Motte-Fouqué. Whatever the country was, it existed an intellectual link between all the tendencies of a romanticism common to Heine in Germany, Lord Byron in England or Alfred de Vigny in France .

Heinrich Heine followed the evolution of the European political situation with passion and showed his admiration for the 1830's Revolution which marked the end of the reign of Charles X in France. Not interested in economic problems, he did not want to integrate either into his uncle Salomon's enterprises who was an important banker in Hamburg nor in the renewal of Prussian militarism.

In 1831 he went, with enthusiasm, to France where he was given a warm welcome. Very quickly, he met La Fayette, the New World's apostle and disciple of liberalism with whom he established his first political and literary contacts.

Theophile Gautier was one of his first friends and soon after Victor Hugo, Georges Sand and Gerard de Nerval who became his translator. But the most fruitful relationship was Honoré de Balzac for whom he had a deep admiration. He also met musicians and political men: Thiers, Guizot, Wagner, Meyerbeer and others.

However, for him, this period was difficult because by some people he was accused of being the enemy of France and by some others he was accused of being the chief of a French political party in Germany.

He was a regular writer of the salon, especially those who advocated a changing of the society or the independence of certain countries which were subjected to the arbitrary. Princess Belgiojoso fought for the Italian independence, the Countess of Agofit fought for revolutionary ideas. Heine established a friendship with the young Karl Marx.

With the birth of the industrial era, socialism spread its ideas all over the social classes, especially in France where it questioned the power of King Louis-Philippe. Like all the men of the left Heinrich Heine was not indifferent to the Napoleonic renewal which followed the 1848's revolution.

His life in Paris was based on researches in several fields; poetry ranked first but he also sent travel stories to German newspapers, political positions corresponding to new but controversial ideas. Heine received a modest pension from the French government which, in the German eyes, marked a certain degree of allegiance. Many partisan correspondences to great German newspapers were censored or suppressed.

Above all, it was his poetry which brought him the admiration of his compatriots, but their translation into French made them lose a great part of quality.

His disease had no influence on the quality of his thoughts and during the years which preceded his death, despite his sufferings and his bedridden state, his spirit stayed luminously open to original conceptions and to the subtlety of their poetical expression. Being banished he could not see his native soil again, heartbreaking for him. He tried to

consult his friend Dieffenbach whose surgical glory, according to him, could have improved his visual condition, but he was not allowed to go back to Berlin.

All his life long, he tried to make the German people understanding the French people as well as the French people understanding the Germans. Thanks to his travels in Europe Heine had a good knowledge of the Anglo-Saxon and the Mediterranean world. That is the reason why, today, he is considered as the ancestor of the European idea.

Heinrich Heine is buried at the Père La Chaise cemetery. Several great poets followed his coffin at his burial.

THE MEDICAL OBSERVATION

Our first approach of his medical problem was revealed to us thanks to an important study written at the beginning of the century by Doctor Cabanes. Taking up again several documents, he made an analytic description of the signs and of the evolution of the disease.

From this fact, we learnt that Doctor Sichel was called to Paris during the first symptoms of a ptosis which appears at the beginning and will develop with aggravations and remissions till the end of his life.

In the "*Ophthalmological Clinic*" dated 1836 (fig.3), Sichel gathering some exceptionnal cases taken in his huge practice which he described under the tenn of neurotic deteriorations of the eye, evokes the case of the german writer :

M.H. a writer aged 36, with a plethoric and irritable constitution, having some syphilitic affection was stricken with a blood attack two years ago. From this cerebral affection, he got a complete paralysis of all the branches of the nerve of the 3rd cerebral pair of the right side..complete paralysis and ptosis of the right eye's upper eyelid ...differing strabismus and dilatation of the right eye's pupil which cannot be opened; divergent strabismus of the right eye which cannot be turned out; the right eye's view is confused, blurred, but becomes clear when we ask the patient to look through a small artificial pupil; the patient's sensitivity is such that whatever the simulants

are, they always provoke new irritations and headaches... The antiphlogitic treatment cured the ptosis entirely; mydriasis is less important after several months of treatment; vision is clear and has recovered his initial range.

Because of the rarity of the text (figures, p.159), we will just give here some extracts of this observation, unknown to German historians, till this day (1998).

We can retain from this observation that this paralysis has spontaneously cured after several months of a treatment, but with a certain degree of diplopia. That is frequent in the paresis of this nerve.

Don't forget to notice that from his youth, Heinrich Heine suffered from extremely severe migraines which made him unfitted for all activities during whole days.

The ocular disease began to reappear in 1837 in an alarming way. Sichel carried on the treatment with bleedings. After several months, the eyes disease improves and the ptosis partly decreases once more.

Two months later, the eyes disease reappears and Heine goes back to Paris. The left eye is closed and blind, the right eye perceives vague outlines only. One think of syphilis he contracted in Göttingen, because the pupil is very dilated .

Heine is afraid of staying blind. However, time after time, an improvement is noticed and during the winter 1839-1840, his ocular disease is cured. During the period of near-blindness, he continued his researches on the intransigence of patriotic ideas.

In 1842, he went to Hamburg to see his mother. Because the disease had made much progresses within one year, his physical aspect had much changed. The paralysis of the face's muscles increased.

After another improvement in 1844, the ocular disease reappears stronger than ever. For weeks, he must refrain from reading.

In 1846, the disease is still there. Consulting once again Doctors Sichel and Roth, he understands that all hope is lost.

He now plans to go to Berlin to consult his friend Dieffenbach who became meanwhile a famous surgeon. But despite Humboldt's intercession; the Prussian authorities did not give him a safe-conduct.

So, he went to Bareges in the South of France, to fight against a progressive paralysis. His throat is hoarse, he cannot swallow meat, his lips are completely lifeless and he speaks with great difficulty. The left eye cannot open, the right one let very few light filter in (it was the right eye which had been affected first).

Inactivity overwhelms him. He loses weight rapidly and his clothes hang loosely about him. Big blue glasses cover his eyes giving him a ghost aspect. Friedrich Engels who meets him wrote to Marx this sentence: "What a tragic impression to see a so remarkable man die". His death is announced in German newspapers.

He is resigned but after the winter he recovers the power of speech. The summer months allows a brief rest of his disease . In September, his paralysis spreads to the legs and the stomach. Heine cannot leave his bedroom anymore : it is the beginning of a long agony. Winter is hard for him.

A new treatment prescribed by Doctor Gruby leads to a miracle and to an unexpected improvement. The 1848's Revolution also constitutes a happy surprise to him.

But, once again, he suffers from awful cramps which are only soothed by morphine. The following summer, he goes to the Louvre to see the Venus of Milo. This was his last Parisian leaving.

Friends who come to see him, notice that his body is twisted and hunched on a mattress with an emaciated face, looking like Christ. With humor, he pointed out that he was Jewish too. At twilight, crisis often decrease and he can discuss with his friend Gerard de Nerval who translated his work.

Meeting some visitors, he is forced to hold his eyelid with his hand, but he continues to write down his poems with a regular handwriting. In his dreams, adventure transforms Heine into a painter and enables him

ATTAQUE APOPLECTIQUE ; PARALYSIE DU NERF OCULO-MOTEUR DU CÔTÉ DROIT.

Obs. I. — M. H., homme de lettres, âgé de 36 ans, d'une constitution pléthorique, irritable, ayant eu quelques affections de nature syphilitique, fut frappé, il y a deux ans, d'un coup de sang. Après la disparition des principaux symptômes, il lui resta de cette affection cérébrale une paralysie complète de toutes les branches du nerf de la troisième paire cérébrale du côté droit. Lorsque nous le vîmes pour la première fois, nous constatâmes les symptômes suivants :

Paralysie et ptosis complet de la paupière supérieure de l'œil droit; elle ne peut être relevée; strabisme divergent de l'œil droit, qui est renversé en dehors; impossibilité de tourner le globe en haut, en bas et en dedans; le malade ne peut tourner l'œil qu'en dehors; quand il veut fixer les objets qui se trouvent sur son

(46)

côté gauche, il les voit doubles; le strabisme et la diplopie cessent, dès que le malade tourne les yeux vers le côté droit; dilatation de la pupille de l'œil droit (mydriasis); celle du côté gauche est contractée; la vue de l'œil droit est confuse, brouillée; le malade voit beaucoup mieux de loin que de près; la vision devient nette, lorsqu'on fait regarder le malade à travers une petite pupille artificielle, pratiquée dans une feuille de papier noir; à l'aide de ce moyen il y voit à la distance ordinaire.

La sensibilité du malade est telle, que les excitans quels qu'ils soient, provoquent toujours de nouvelles irritations, des maux de tête, de l'orgasme dans le système sanguin.

Le traitement antiphlogistique, combiné avec les révulsifs, est encore le mieux supporté par le malade, et sous son usage le ptosis a guéri entièrement; le mydriasis est devenu beaucoup moindre après plusieurs mois de traitement; la vision est devenue nette et a repris sa portée primitive; le globe de l'œil a acquis plus de mobilité; il n'est plus renversé en dehors; le strabisme n'est plus permanent. Cependant, quand le malade regarde à gauche, la divergence des axes visuels est encore perceptible, et les objets paraissent doubles de temps en temps.

Figure 3: Sichel's description of Heine's medical state in *Revue Trimestrielle de la Clinique Ophthalmologique de M. Sichel* (Octobre, novembre et Décembre 1836)

(Wayenborgh Collection)

to describe colored images with an extreme precision. "Romanzero" will become the ultimate symbol of his tragic destiny.

During the last months, he is afraid of one thing: that the disease attacks his brain. He reads all the available medical books and says this disillusioned sentence: "*My studies are useless to me except to notice that, on earth, doctors do not know how to cure a disease of backbone*".

The last hours of Heine end with a complete ptosis and breathing troubles, but in complete conscience.

DISCUSSIONS ON HEINRICH HEINE'S DISEASE

All the publications which refers to his disease have been recently put together with quality in an important book written by Henner Montanus ("*Der kranke Heinrich Heine*". Stuttgart/ Weimar : Metzler, 1995).

This book was written by the physician Montanus upon request by the Director of the Institute of Medical History at the Heinrich Heine's University of Düsseldorf.

In a text over 500 pages, Montanus discuss on every aspects of the disease : successively, he studies the chronology of the troubles, the stays of Heine in spa towns, his portraits and their diagnostical importance, the personal writing of Heinrich Heine which

are the matter of the diagnostic as well as the therapeutic he followed and finally his opinion about the doctors who treated him.

Henner Montanus puts together in a complete biography, the 65 medical publications which have been already discussed, then he comments the diagnosis which have been successively viewed until now:

Gnarled periarthritis;
Acute porphyria;
Syringomelia;
Landry's ascending paralysis;
Sclerosis amyotrophic lateral;
Encephalomyelitis postinfection;
Tuberculosis and meningo-encephalitis;
Tuberculous syphilis and
Syphilitic encephalomyelitis.

But for most authors, mainly two diagnosis emerge from this long series: syphilis and tuberculous meningitis.

In the XIXth century, syphilis was often associated with debauched life. Furthermore, if we add the Judaic origin of Heinrich Heine, in Christian eyes it gives him an evidence of punishment. Like other poets at this time, his life could conclude to this diagnosis.

When we successively consult the different editions of Walsh's neuro ophthalmology treaty, then Walsh and Hoyt's until the 4th edition of Neil Miler, we are aware of the evolution of the ideas concerning nervous syphilis, its progressive disappearance and its total disregard today.

In the XIXth century, it was the diagnosis of tabes dorsalis which impressed the whole medical corps. Concerning Heinrich Heine, based on the certitude of a syphilis caught when he was a student and on signs which corresponded to the manifestations of tabes dorsalis.

What was in favor of this diagnosis was the slowly progressive evolution, the severe paroxystic sufferings by crisis, and of course, the permanent, incomplete and bilateral ptosis.

The frequent optic alterations did not seem to have appeared to Heine because his visual acuity was still normal till the end.

Weber's syndrom by vascular lesions at vertebrobasillar system level, could be based on Heine's initial manifestations of a right side paralysis of the 3rd pair associated with the hemiparesia of the left upper contralateral limb.

Afterwards, the disappearance of this ptosis and the apparition of new symptoms makes a diagnosis of mesencephalic vascularity problematic. To explain this disorder, the severe headaches that Heine suffered could also be at the origin of this transitory paralysis.

At that time, Argill Robertson's sign was not described but it will become the pathognomic sign of nervous syphilis, around 1900.

Without serological and complete neuro-clinical examination, without post mortem anatomic verification, it is difficult to have a final opinion today.

Actually, one may think of the possibility of a tuberculous meningoencephalitis by family contamination. The long evolution with tiredness, perspiration, constitutes important elements. The useful role of bathes will also be a favorable point: that is Montanus' opinion.

However, it appears to us that a tuberculous meningo-encephalitis (or syphilitic) would not have a slowly evolution on such a long period (1832-1856). The evolutive remissions are less important and less long, even if certain signs look similar.

To summarize our point of view, at this time, the tuberculous meningitis kills rapidly and syphilis does not let the cerebral quality intact.

Concerning the other diagnosis, rarely evoked, they can, in my opinion, be eliminated.

The lateral amyotrophic sclerosis leads to peripheric progressive and definitive paralysis. It is the same for the syringomelia and the Landry's ascending paralysis.

We do not have either clinical or urinary element which could indicate the acute intermittent porphyria. In particular, we do not remark these sudden painful blackish

urines which are characteristic of its evolution.

To sum up the medical opinions, we only kept some diagnosis envisaged in the 65 articles published between 1885 and 1990.

Conan DOYLE (1885) Syphilitic tabes dorsal
 CABANES (1899) Tabes, ataxia
 SCHACHTER (1933) Multiple sclerosis
 ROTH (1969) Acute intermittent porphyria
 JELLINEK (1990) Multiple sclerosis

MY PERSONAL POINT OF VIEW

It is amazing to note that a frequent but unknown disease at the time of Heinrich Heine, has never been quoted in medical publications, that is to say Goldmann-Erb disease: *myasthenia gravis*.

In the remarkable history of ocular neurology written by Sanger and Wilbrand at the beginning of the century "*Neurologie des Auges*", a whole book is dedicated to ptosis and a long chapter to myasthenia which proves the presence of this disease at that time. This diagnosis is today the one that seems to me to be Heine's most likely diagnosis.

What in Heine appears first, decreases, then reappears till his death, is bilateral ptosis. In numerous images, portraits, engravings, paintings or sculptures representing Heine, we can observe, the artists who represented him, were struck by the beauty of his facial appearance, particularly his look of greatness and serenity that some compared with that of Christ (fig.4). His death mask does not disclose any facial paralysis. Despite his permanent and real sufferings, his calm and his face without wrinkles seemed to be in harmony with the intimate life of the poet.

But there is a fact that does not seem to draw the attention of the historians: the partial and momentary regression of these disorders with sometimes a total recovery, alternating with relapses.

The progressive feature of the disease, its improvements without reason, the persistence of a good visual acuity, the disorders, progression at the naso-pharynx and

neck level before the attack of the lower limbs muscles, correspond to this disease.

Motor neuron disease in its various disguises was identified as a clinical entity mainly by the work of French neurologists around 1850. The first descriptions of cases of myasthenia gravis came 30 years later. They all have as their point of origin comparisons with progressive bulbar paralysis that was well known around 1880. It is not surprising that cases of myasthenia gravis at this time were first diagnosed as bulbar paralysis. The heedful observers would, however, soon recognize clinical aspects that were incompatible with this diagnosis, and the reports show how the concept of the new disease gradually emerges with clinical features distinctly from those of motor neuron disease.

Wilhelm Erb, a 38-year-old physician, working in Heidelberg, reported on a condition he had encountered in three patients, all with symptoms of bulbar paralysis but with clinical features indicating a new syndrome of which he gave a full account. Like other patients with bulbar paralysis, they had difficulties in chewing and swallowing. But what was unique with this syndrome were several symptoms and signs not commonly encountered in bulbar paralysis. They all had ptosis, and a prominent finding was weakness of the neck muscles. Erb also noted paresis of the extremities and that the symptoms were fluctuating and not slowly progressive as in bulbar paralysis. The prognosis of the disorder described by Erb was in many cases very serious.

All of these symptoms truly correspond to the evolution of Heinrich Heine's disease.

In a history of myasthenia published in "*Historical aspects of the Neurosciences*", Johann A. Aarli ends his evocation with the case of a Swedish poet who died at the same age and with the same manifestations as Heine. Prostigmin treatment restored his strength only temporarily. Like Heinrich Heine, he was able to continue his last volume of poetry, partly when being on a respirator.

It is possible, of course, that Heine had some other motor neuron disease. For ex-

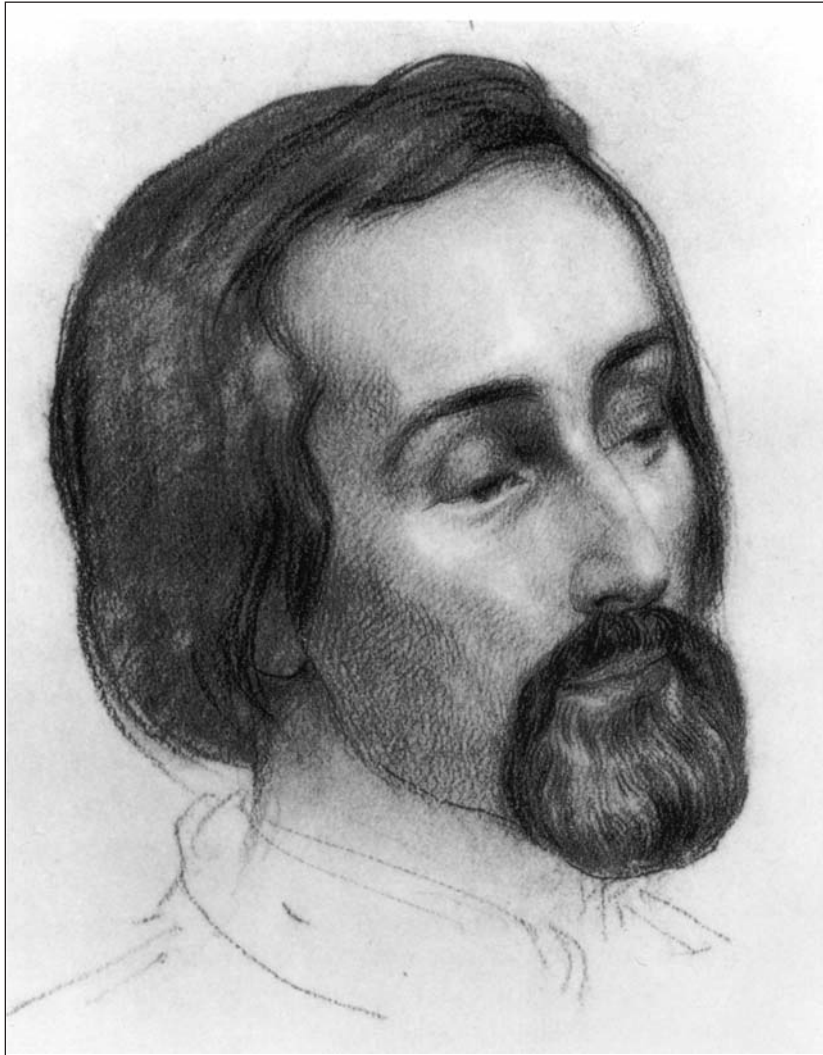


Fig.4 contemporary portrait of Heine at the end of his life

ample, the mitochondrial neuro encephalopathy known as chronic progressive external ophthalmoplegia (CPEO), but the ptosis and ophthalmoparesis of this condition are constant and progressive, not transient and variable.

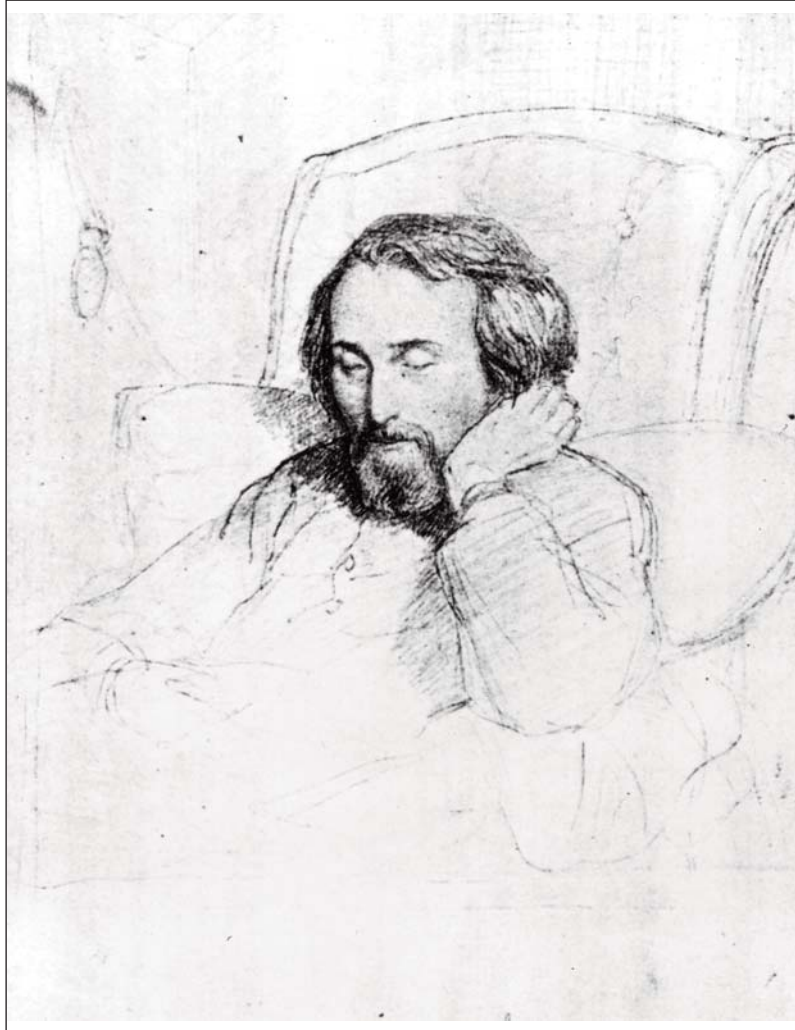
We can complete this chapter with the study of myopathy related to inter-nuclear alterations, or with hereditary or congenital alterations of ptosis geographically localized (Quebec, United States/Barbeau).

Today, in the case of Heinrich Heine, we still think of myasthenia gravis. We must regret that the medical therapeutic recommended by Mary Walker was not implemented, because in many cases a regular dose of pyridostigmine, steroids, or other immunomodulatory agents, possibly combined

with thymectomy, results in considerable improvement or even complete remission. Nevertheless, despite treatment, can lead to the death of men and women who are still young and active.

It is probable that the same treatment could not have been totally effective in the evolution of Heinrich Heine's disease.

Despite various treatments, myasthenia gravis remains, for many patients, a debilitating and potentially fatal disease.



Heinrich Heine with complete bilateral ptosis c.1851

Drawing by Charles Gleyre (1806-1874)

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