Almost two hundred years ago, in the year 1780, a certain Francois Albert Xavier Grima from Birirkara, son of Gio. Maria and of Catherine Montaldos, left Malta, went to North America and settled in New Orleans, Louisiana.

In the early 18th century, Louisiana belonged to France, New Orleans having been founded in 1718. In 1763 this territory was transferred to Spain but in 1802 the Spaniards ceded Louisiana to Napoleon who, in the following year, sold it to the American Union (Nicholas, 1950).

When Francois Albert Xavier Grima reached New Orleans he was thirtythree years of age, having been born in the Parish of St. Helena (Birkirkara) on the 1st March 1747 (Baptismal Records, 1747).

In New Orleans he married Marie Anne Filiosa, the daughter of Sylvain Filiosa, a Parisian cavalryman in the service of the French King Louis XV by whom he had been granted Timballier Island in the Gulf of Mexico in recognition of his heroic stand against the Indians in 1727.

Francois Grima had two sons, Bartolomeo who settled in Mexico, and Felix who remained in New Orleans.

Felix was born in 1798, studied law, was called to the bar in 1819 and appointed judge of the Criminal Court of New Orleans in 1828/29. In 1831 he married Adelaide Montegut whose grandfather — Dr. Joseph Montegut — had emigrated from France to Louisiana in 1760. Dr. Montegut became Chief Surgeon of the Charity Hospital of New Orleans in 1775 and eventually Secretary of the Treasury of Louisiana in 1800.

During the Civil War (1861-65), when New Orleans was occupied by Federal troops, Felix was forced to leave the city. He moved to Georgia with his family but returned to New Orleans at the end of hostilities. Here he lived at 96 St. Louis Street in a "noble old house" with an old-fashioned garden representing a "blending of French and Spanish" architecture. That house, acquired by Felix in 1840, was still inhabited by his descendants in the present century, the last resident being the youngest son of his offspring, Adelaide, who died in 1921.

Felix died in 1887. He had nine children, the second of whom was Victor (Arthur et al., 1931; King, 1921; Biographical and Historical Memoirs, 1892) who eventually studied medicine and specialised in ophthalmology.

Biographical material about Dr. Victor Grima is extremely scanty. The date of his birth has not been traced but the evidence available shows that he must have been born between 1836 and 1844 (Arthur et al., 1931; Rosenthal, 1971). It is also not known in which medical school he pursued his studies and gained his medical degree. His name is not found in medical directories, in biographical dictionaries and in accounts of the history of medicine in Louisiana and of American
ophthalmologists of the last century (Duffy, 1958; Hirschberg, 1915).

It is certain that after qualifying he studied for some time in Paris where in 1868 he presented a thesis on Traumatic Cataract for the M.D. of the Medical Faculty of Paris. The title-page of this work states that he was born in New Orleans, Louisiana.

From colonial days to the 20th century, American medical men had been visiting Europe to widen their professional experience. They went to Leyden in the 17th, to London and Edinburgh in the 18th, and to Paris in the 19th century. It has been estimated that between 1820 and 1861 over six hundred American doctors visited Paris for purposes of study at a time when the French capital was at its highest reputation as a medical centre. On their return to the United States, these medical men exercised a great influence on American medicine through the diffusion of French medical thought and practice giving rise to the so-called “French period” of American medicine.

Not all these men, however, earned French medical degrees; in fact only twenty-four did so and twenty of them were natives of New Orleans. So when Grima went to study in Paris he was following not only an established American pattern but a specifically New Orleans tradition. Some of these doctors began to study the budding specialities, ophthalmology being one of them (Russel, 1970). Here again by taking up the study of this branch of medicine in Paris in the late sixties, Grima followed the current trend.

At that time, the understanding and treatment of eye diseases was registering momentous advances. J. E. Purkinje (1787-1869) had discovered the principle of the examination of the eye fundi; Sir William Bowman (1816-1892) originated the operation of iridectomy; Albrecht von Graefe (1828-1870) first used iridectomy for glaucoma (1856); Johannes Müller (1801-58) found that the rods and cones were the light sensitive parts of the retina; Christian Ruete (1810-67) invented the indirect ophthalmoscope to be developed later on (1830) by another pioneer, H. L. von Helmholtz (1821-94). On the other hand, Grima did not live long enough to profit from the use of cocaine as a topical anaesthetic, first advocated by Karl Koller in 1884, and from the introduction of antisepsis in ophthalmology on the part of Alfred Carl Graefe (1830-99) in May 1877. He also missed the introduction of the instillation of a 2% Silver Nitrate solution in the eyes of the newborn infant proposed in 1884 by C. S. Credè (1818-92) as prophylaxis against ophthalmia neonatorum (Arrington, 1959; Snyder, 1967). It is of interest to note, however, that Grima had already used that solution in the treatment of a case of gonorrhoeal conjunctivitis in an adult in 1875 as will be told further on.

On his return to the United States, he was appointed surgeon to the Eye Wards of the Charity Hospital of New Orleans and Lecturer on Eye Diseases in the Medical Department of the University of Louisiana.

His literary contributions to contemporary ophthalmology are four, as far as I have been able to ascertain. They are briefly summarised and reviewed below.

(1) De La Cataract Traumatique, Essai de Description Clinique. This is the thesis for the Doctorate in Medicine presented to the Faculty of Medicine in Paris on the 3rd March, 1868 and published in Paris in the same year (Grima, 1868). He made no claim for his thesis being a “work of erudition”; it was simply a clinical description which, he was aware, contained many gaps that his series of sixteen cases did not allow him to fill. The work, which runs into 81 pages, was the result of his personal observation supported by reference to contemporary literature. It is divided into five sections: (a) a discussion of the mechanisms underlying traumatic cataract; (b) a description of the clinical manifestations; (c) the development of its clinical course; (d) an analysis of its pathological anatomy; and (e) treatment recommended.

Treatment was of two kinds — medical and surgical. Medical remedies consisted in the instillation of atropine sulphate drops, to forestall prolapse of the iris, and cupping with scarification of the temporal region to prevent an acute inflammatory reaction. Surgical treatment
indicated was the removal of the lens by linear extraction or by the aid of the serretele. The various stages of the operation are given in detail.

The clinical features of the sixteen cases studied are described at length with almost daily entries carefully recording the development of the illness. Grima expresses his gratitude to Dr. A. Desmarres who placed the resources of his clinic at his disposal.

A perusal of this thesis shows that Grima was familiar with iridectomy and the use of the ophthalmoscope.

(2) In July 1873 he published a short but detailed paper entitled Contribution to the History of Ocular Syphilis (Grima, 1873) in which he described the clinical feature of syphilitic involvement of the eye which he had observed, until then, "among coloured people exclusively". The disease began as an ordinary case of catarrhal conjunctivitis except that the conjunctiva of the lids was dotted with white opaque pustules which formed "the striking feature of the disease". The second stage was that of iridocyclitis with rapid softening and atrophy of the eyeball or with the formation of gummata in the iris with destruction and atrophy of the eyeball. He discussed the differential diagnosis from tubercular granulations and malignant growths; the prognosis and the results of treatment by means of local applications of silver nitrate, the free use of atropine and iridectomy.

It must be remembered that the Spirochaeta pallida was only discovered in 1905 and that the Wasserman Reaction came into use in 1906.

(3) In May 1874 he read, at a meeting of the New Orleans Medical and Surgical Association, a short note on Two cases of Burns of the Cornea in children (Grima, 1874). The lesions were caused by hot oil and by a heated "instrument for ironing linen" respectively. The resulting opacity of the cornea together with the "future necessity of an operation for artificial pupil in case of recovery" induced him to proffer a severe prognosis. The only treatment he used was to keep "a wet rag over the eye day and night". To his surprise the cornea, in each case, completely recovered its entire transparency. He was prompted to record the two cases to (a) point out the pitfall of a hasty and "alarming prognosis which proved unjustifiable"; and (b) contribute to the "very little information" available in the textbooks of his time on the subject.

(4) He presented another paper at a gathering of the same Association, in May 1875 (Grima, 1875). It dealt with a case of Double Gonorrheal Ophthalmia Which Presented Peculiar Features. The man, apart from his ocular manifestations, was suffering from acute genital gonorrhoea. He was admitted to the Eye Wards of Dr. Grima "with strict recommendations not to allow anyone around him but a well nurse for fear of further contamination in the ward". Grima treated the patient with dipping of the face in a basin of water as often as he could, possibly every fifteen minutes, "and wink his eye in the water so as to thoroughly wash out" the pus. He also touched the patient's lids with silver nitrate. After three days this treatment was suspended and a week later "his eyes looked entirely well". The patient, however, then developed pain and swelling in his knees, elbow joints and wrists; and after some time "rheumatic iritis". These conditions subsided with iodide of potash internally and iodine paint applications to the affected joints. The patient finally recovered, the whole episode having lasted about six weeks.

It is noteworthy that the treatment of gonorrhoeal ophthalmia had not changed substantially during the ensuing sixty years until the beginning of the antibiotic era — iced compresses, silver nitrate solution and the application of leeches to the temples being the standard therapy prescribed (Hine, 1934). We may, however, very reasonably ask whether the arthritis and the iritis observed by Grima were really "rheumatic"; in fact the pre-existence of an acute gonorrhoeal infection strongly suggests that they were of the same nature; but, then, Grima had no X-rays (discovered in 1896) to show the loss of joint space due to cartilage destruction and no facilities for diagnostic smears and culture of the fluid aspirated.
from the joints as the gonococcus was only discovered four years later in 1879.

Grima was one of the founders of the New Orleans Medical and Surgical Association and the first member of that organization to die. He died single on the 17th April, 1877 at his residence No. 96 St. Louis Street, New Orleans (Daily Picayune, 1877; The New Orleans Times, 1877); this house still stands but now bears the number 820 and is known as “Grima House”. It has been restored architecturally by a local society and is a tourist attraction in the French Quarter (Rosenthal, 1971).

Commenting on his demise the editor of the “New Orleans Medical and Surgical Journal” said: “The many students who attended his lectures will lament the untimely death of a teacher who combined in one character unusual personal grace and personal worth with unusual scientific attainments and remarkable skilfulness as an operator. While always modest and unassuming in his deportment, in the exercise of his profession he exhibited the boldness and self-confidence which are the offspring of ripe knowledge and tried experience”.

In a memorial address at a meeting of the Association held on the 28th April 1877, Dr. Samuel Logan spoke thus: “Victor Grima, one of the founders of this Association, and one of its most zealous supporters will no longer answer to its roll call. For weeks we have missed him at our meeting; him who was so regular in attendance... He died as he lived, clothed with the unostentatious and gentle dignity so peculiarly his own, leaving a record free from all stain, and graced with all the best characteristics of the true gentleman, the enlightened scholar, the faithful friend, the devoted son, the loving brother, the practical philanthropist. His, my confreres, was a character we may well emulate; would that this world had more such and that the few we have like him were longer spared us”.

The following resolution by the Committee was unanimously accepted and adopted: “Be it resolved that in his death this Association and the medical profession at large loses a worthy and enlightened member, who can ill be spared from our ranks, the community one of its best citizens and the poor a truly disinterested friend and charitable adviser. Be it resolved, that feeling as we do so keen an appreciation of our great loss, we deem it but meet, as a body, to tender to his afflicted family and relatives our heart-felt sympathies in this sad bereavement. Be it further resolved that a page of our record be reserved to his memory and his name be inscribed thereon” (New Orleans Medical and Surgical Journal, 1877).

Such is our knowledge of the life of an American medical practitioner of Maltese descent who was an early “specialist” in ophthalmology in the United States and who, with others that studied in France, played his part in shaping the “French period” in American medicine.

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GENERALIZED GANGLIOSIDOSIS IN MALTA

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Tay, a British ophthalmologist, described a cherry-red spot in the fundus of a retarded infant in 1881 and Sachs a few years later established the basic clinical picture of the syndrome called amaurotic family idiocy.

The abnormal deposits of glycolipids in neurones termed ganglioside by Klenk in 1943, appeared to be the basic pathologic abnormality responsible for the disease. Visceral lipidosis was not a feature of the classical disease described by Tay and Sachs. However, atypical cases of Tay Sachs and others resembling Niemann Pick were also described. The right solution for these problems has been recently provided by the neurochemist.

The key ganglioside has the following chemical structure:

\[
\text{Cer-Glu-Gal-GalN\text{HAc}-Gal} \\
\quad | \quad | \\
\text{NANA} \\
\text{NANA} \\
\text{NANA}
\]

The metabolism of this substance initially involves the removal of one or other molecule of sialic acid by specific lysosomal hydrolsate enzymes. Further down the metabolic pathway the terminal galactose residue is removed, again by a specific enzyme.

At least nine different main gangliosides can normally be detected in brain tissue and various diseases have been attributed to the abnormal accumulation of a ganglioside or a related compound, due to absence or deficiency of the specific enzyme.

The chemical structure of ganglioside GM1 is:

\[
\text{Cer-Glu-Gal-GalN\text{HAc}-Gal} \\
\quad | \\
\text{NANA}
\]

* Cer = ceramide; Glu = glucose; Gal = galactose; GalN\text{HAc} = N-acetyl galactosamine; NANA = N-acetyl-neuraminic acid (= sialic acid)