

## **The philosophical and political commitments of Eugène Catalan**

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### **Introduction**

In 1865 the Frenchman Eugène Catalan (1814-1894) was appointed Professor of Mathematics at the University of Liège. In the nineteenth century the Belgian government developed a policy of attracting and employing famous foreign scholars, mainly coming from the German principalities and France, in order to bring the education system to a higher level. The most illustrious examples of this successful recruitment policy, which was applied in favour of both the State Universities of Liège and Ghent, are the biologist Theodor Schwann (1810-1882), who moved from Berlin to Louvain and from there to Liège, where he laid the foundations of the school of physiology, the writer and critic Charles-Augustin Sainte-Beuve (1804-1869) who taught French literature at Liège before accepting chairs at the *Collège de France* and the *École normale supérieure*, and Friedrich August Kekulé (1829-1896), who moved from Heidelberg to Ghent where he introduced organic chemistry before he moved on to Bonn[1]. In Catalan's case, however, the appointment had an outspoken political and philosophical dimension. Catalan sought and found refuge in Belgium because his career prospects in France was severely hindered due to his strong republican and anti-Bonapartist viewpoints.

In a speech he gave at the University's Academic Hall on the occasion of his retirement on December 7, 1881, Catalan emphasized that two passions filled his life: *la Politique militante et les Mathématiques* ["Militant Politics and Mathematics"] [2]. Catalan esteemed this solemn academic forum inappropriate for sharing his political views with the public. He was fairly convinced his public and he might not agree, and so he continued, sharing with his students, old and new, some thoughts on intellectual life. However, the fact that Catalan mentioned politics before mathematics is in itself significant. Therefore I will, in this contribution, investigate the first of Catalan's passions against the background of the revolutionary tensions of the time on the basis of primary sources:

- first, a brochure published by Catalan in person, albeit anonymously, at the end of his life: *Miettes littéraires et politiques, par un vieux mathématicien* ["Literary and political crumbs, by an old mathematician"] (Liège, 1889) [3];
- second, Catalan's correspondence, covering several decades, which is preserved at the Manuscripts Department of the Library of the University of Liège [4];
- third, a diary kept by Catalan during the years 1858 to 1862, entitled *Journal d'un bourgeois de Paris* ["Diary of a Parisian citizen"] [5].

At the Centre for the History of Science and Technology (CHST) [6] we are fortunate to possess a full transcription of Catalan's manuscripts thanks to the efforts of the late Professor François Jongmans, who passed away on May 23, 2014. Arguably Catalan's principal biographer, Professor Jongmans was also an excellent historian of mathematics. He

deserves our recognition, both for his scholarly and educational accomplishments [7]. I would like to dedicate this contribution to his memory.

By analysing the sources mentioned above, I aim to bring together a series of elements that provide insight not so much in the work of an extraordinary mathematician but rather in the thoughts and actions of a committed intellectual who deliberately chose not to remain indifferent when faced with the social and political issues of his time. It is important to know Catalan's own perception of his political and philosophical commitments, to understand the reasons behind his involvement in the revolutionary uprisings of 1830, 1848 and 1851, the exact nature of his activism, his interpretation of the republican ideal, his political hopes and deceptions, his view on both French and European political realities, his struggle with the Catholic Church, the meaning of his engagement in Freemasonry. I will mainly focus on the time Catalan spent in France.

### **A child of the Restoration**

Where and when do we find the first traces of Catalan's republican, leftist fibre? We must turn to Paris in the 1820s – a turbulent time indeed, both for France and for young Eugène.

Let us recall that Catalan was born in 1814 under the name of Eugène Charles Bardin in the Flemish city of Bruges, which at the time of his birth fell under the administration of Napoleonic France, but soon came under the rule of the Dutch. Catalan became a French citizen again when Joseph Victor Étienne Catalan, the new partner of his mother Jeanne Bardin, officially recognized him as his son. In 1822 the family left Bruges for Lille, and between 1824 and 1826 they all moved to Paris, where Eugène's father, originally a jeweller, took the profession of architect.

Of rather humble social origins Eugène learned to read and write at an early age, and seemed to be destined to join his father's footsteps, first by becoming an apprentice at a jeweller in Lille, and when that proved unsuccessful, by entering in 1826 a free drawing school in Paris, called the *École royale gratuite de dessin et de mathématiques en faveur des arts mécaniques*. There he received the basics of geometry and architecture. However, in these early years the teenager spent much time in the streets of the French capital.

It was the time of Bourbon Restoration. With the approval of the Vienna Congress a constitutional monarchy was installed in France, headed by two brothers of the beheaded King Louis XVI (1754-1793, r. 1774-1792): King Louis XVIII (1755-1824), from 1814 to 1824, followed by King Charles X (1757-1836), from 1824 to 1830. As the French historian Benoît Yvert correctly pointed out in his most recent book *La Restauration. Les idées et les hommes*, this was a complex but pivotal period in French political and social history, "confronting with each other three generations – the survivors of the Old Regime, young people born with the Empire, and finally the children of the Industrial Revolution in the making, producing clashes between men and ideas: Romantics against Classicists, Gallicans against Ultramontanes, Ultra-Royalists against Liberals, while we must not forget the birth of the Doctrinaires, the invention of Bonapartism [...], and finally, that of Utopian Socialism." [8]

Not only royal power rose from the ashes, also the Catholic Church saw its central position in matters of state restored, as is illustrated by one of Catalan's early observations, noted down

during a jubilee procession in 1826. Eugène was 12 years old and fascinated by the event: “We have a very pious King, and we have seen him recently in procession on the occasion of the Jubilee, with the Dauphin, the Dauphine, and the complete royal family... First there were two golden crosses, followed by two large Swiss in grand costume. After that came three to four hundred seminarians, the priests of all parishes, the *good* Jesuits, twelve bishops and archbishops, five or six cardinals, and finally Monseigneur Hyacinthe-Louis de Quélen, Archbishop of Paris, and all his servants. [...] The suite was followed by a crowd eager to show its devotion, some to gain indulgences, others just for their own interests.” [9]

### **Choosing sides**

The breeding ground for political and social tension was rich. The former Revolutionaries had a fresh memory of the White Terror, and they expected a revival of the Ultra-Royalists’ urge for retaliation. But most of all they feared a derailment of royal authority.

The guiding principles of the relationship between the monarch and his people were laid down in the Charter of 1814 – essentially the founding text of French parliamentary monarchy. Especially under Charles X and his Ultra-Royalist Ministers borders were shifted. A reform of the system of censitary suffrage gave almost all the power to landowners. Moreover, they recuperated a part of the possessions lost during the Revolution. Desecrating the host was made a criminal offense. In April 1830, Charles X lifted the National Guard, symbol of the Revolution.

Add to that the deterioration of press freedom, a political class accused of corruption, an economic crisis, and the increasing impoverishment of the lowest incomes, especially in the cities, and one obtains the recipe for revolutionary tensions. What emerged was the classic pattern of a deeply divided French society: a rural, Catholic, monarchist and conservative share of the nation faced its urban, liberal, progressive and republican counterpart.

In this tension field young Eugène decided to choose sides. He lived in a big city, did not belong to a wealthy family, land property certainly was out of reach, but he enjoyed free education, and he knew all too well that he owed that to the Revolution and to republican zeal, not to royal benevolence.

One of his first writings on the repression of popular revolt – the shootings and bloodshed he witnessed in rue Saint-Denis on November 19 and 20, 1827 – must have enforced his aversion against the people in power [10]. Although his political opinion was still maturing, he would soon be caught up in a maelstrom of action, the outcome of which would enforce his republican feelings.

### **A first encounter with history: 1830**

1830 was the first really important moment in Catalan’s political awakening. On his participation in the July Revolution, also called the “Three Glorious Days” (*Les Trois Glorieuses*), we are rather well informed thanks to a short autobiographical sketch, *Souvenirs d’un écolier de Paris, sur la Révolution de juillet 1830* [“Memories of a Parisian schoolboy of the July Revolution of 1830”]. Catalan promised to give an accurate view of the facts, but we

must remember that he wrote down his remembrances in 1833 at a moment when he had already had become frustrated with the political outcome of these eventful days.

Catalan was close to the action. However, he was more an observer of historical events than an active participant. One must not be surprised. Catalan was just 16 years old, and – as he called himself – still a “schoolboy”. Living a part of the day on the streets of Paris, he experienced for the first time the power of the masses. He was carried away by the enthusiasm of the crowds, which were gathered near the Palais Royal, the centre of historical events, the essence of which – Catalan admitted later – he did not yet grasp to the full. It was July 26, 1830.

A series of new ordinances signed by the King were officialised, suppressing the freedom of the press, decreeing the dissolution of the Chamber of Representatives, and stipulating a new composition of the electoral college, evincing from power the liberal minded bourgeoisie. Curious about the events of the day, Catalan ran to the Palais Royal after school. Upon his arrival he saw how the police closed down the offices of many newspapers.

Catalan described his own feelings at this very moment: he was “electrified” by the people who stirred up the masses with a language of revolutionary outrage. And there he went with all the others, running like madmen through the streets of Paris, loosening cobblestones and preparing an attack on the windows of the seats of power. But Catalan himself remained prudent – he stayed at a distance of real action.

On July 27, still very excited by the course of the events, he again took the street together with some fellow schoolboys from the *École gratuite de dessin*. Near the end of the day, the situation turned grim. Shootings broke out, followed by chaos. As everyone else Catalan was running in the streets, fearing for his life. At one moment, near the *Hôtel de Ville*, he was trapped in a shooting between opposing parties. He was lucky enough to get out in time and find shelter in a house where he was obliged to spend the night in absolute silence.

Then a new dazzling day started. Back in the streets of Paris from the early morning of July 28, Catalan was struck by the pain of the victims, the sorrow of widows, but also by the fraternity and courage showed by the Parisian workers and students. It was the day of the grand popular uprising and the massive construction of barricades, of people singing anew the *Marseillaise* and carrying the banners of 1789 – as depicted in Delacroix’s famous painting *La liberté guidant le peuple (28 juillet 1830)* (Paris, Musée du Louvre). In Catalan’s view, it was “equality” that reigned among the people. He made his first symbolic gesture: he fabricated a tricolour cockade and proudly put in the buttonhole of his vest [11].

In the end Charles X must flee the country but the monarchy was saved. Louis-Philippe (1773-1850), Prince of Orléans, became “King of the French” within the frame of a re-established parliamentary system.

But soon after the installation of the new regime, Catalan became disappointed again. Still only 17 years old, he fully transformed into a convinced republican who discerned in the new King a despot responsible for keeping the people in poverty. In 1831 he wrote down: “poverty is extreme; if this continues, one shall be obliged to hang oneself, or eat each other.” [12] From his writings we learn that Catalan nostalgically looked back to the 1790s and its revolutionary symbols such as the Liberty trees [13].

It is certain that the July Monarchy did not set his revolutionary mind to rest. In fact, Catalan participated in the first important act of agitation of that period: the destruction of the palace of the Archbishop of Paris on February 14, 1831 [14].

### **Education and republican zeal**

It should be underlined that Catalan sought companions in his quest to install a more socially equitable society. Around this time he became a member of the *Association libre pour l'éducation du peuple* ["Free Association for the Education of the People"], one of the many secular organisations which aimed to strengthen the bond between students and workers by opening up the education system to the working people [15]. Catalan who was already *répétiteur* (repeater) at the *École de dessin*, now decided to spend his teaching talents to those people he most sympathized with. During his first public course of mathematics he was very clear on that point: "[...] We live in a time when it is no longer permitted to reserve for oneself the enlightenment one has been able to acquire, even if it may be weak. So it is only with the hope of not being completely useless, and with the desire to digress not too much from the purpose indicated to me, that I have aspired to the honour of combating together, not by talent, but by zeal, with the men who consecrate their vigils in order to offer the People a truly national education." [16].

In Catalan's view, mathematics occupied an important place in the life of the working people: "one should not believe mathematics to be more contemplative than it effectively is: arithmetic, algebra and geometry, for example, although not forming but an infinitely small part of science, are of almost continuous application, in all circumstances of life. How should one handle his financial affairs, how should one avoid of being deceived at every moment, if one does not possess at least the rudiments of arithmetic? How should the worker when confronted with his employer, or the taxpayer when confronted with the tax collector, discuss their interest if they do not master a little calculation? The mason, the carpenter, and many others, engaged in construction work, will they know how to read the drawings the architect gives them if they do not possess quite extensive notions of geometry?" [17] Thus we see how Catalan already in his youth gave a profound social turn to the didactics of mathematics.

### **Political and personal deceptions**

The early days of the July Monarchy remained hectic. In 1832, the republican opposition in Parliament no longer had any confidence whatsoever in the King and dreamed of a new uprising, stimulated by the many republican associations active in the capital. The funeral of General Jean Maximilien Lamarque (1770-1832), a republican hero, was the spark that lit the fire. Catalan and his friends from the *Association libre* initially participated in the homage on June 5, 1832, but the event transformed into an outburst of aggression. What followed was an outright republican uprising in the streets of Paris, with barricades and violent shooting. The following day Catalan, contrary to his normal behaviour, stayed inside – in fact his father forbade him to leave under the threat of permanent expulsion if he ignored parental advice. This decision probably saved his life. A new outburst of violence ended in disaster, leaving 800 republicans death in the street of the *quartier Saint-Merri*, all killed by the National Guard [18]. The order was restored. But as a consequence the *Association libre pour l'éducation du peuple* was put under surveillance. Catalan was obliged to end the teaching of his public course immediately [19]. As he prepared around the same time his exam to enter the *École polytechnique*, he temporarily took a low profile, mainly focussing

himself on intellectual work. He successfully passed the test. Early November 1833 Catalan entered the prestigious engineering school [20]. He received a partial scholarship from the State [21].

While the year 1834 counted many new riots, again followed by violent repression, Catalan refrained from participating in republican uprising. Must we conclude from this that his political views had changed? Not really. His “political silence” can easily be explained. In fact, the *École polytechnique* imposed a curfew upon its students. Whenever Paris was shaking, they were safely kept inside the walls of the school. Eugène Catalan’s republicanism ignited from time to time. For example in 1834 when he was outraged by the fact that the name of his school – a product of the Revolution – changed into *École royale polytechnique* [22]. In the letters he addressed to his future wife Eugénie he could not resist to add to his declarations of love some painful impressions on current politics [23]. In another writing dating from August 1835 he expressed his regret that Louis-Philippe was preparing new laws – the September Laws – which again would put pressure on the freedom of the press and would install a juridical system fully equipped to repress a new republican uprising [24].

Contrary to what one might expect, Catalan’s curriculum of controversial political commitments did not immediately have an impact on the development of his professional career. He successfully graduated at the *École polytechnique* in 1835 [25], then taught for two years at the *École des Arts et Métiers* in Châlons-sur-Marne (1835-1837) before returning to Paris where he taught preparatory courses for the exam at the *École polytechnique* at the *École préparatoire Sainte-Barbe* while completing his own studies. In 1838 Catalan was made *répétiteur-adjoint* (assistant repeater) at the *École polytechnique*. In 1839 he added to that the position of *examineur-suppléant* (examiner) [26]. His reputation of a solid mathematician was well established and he built a network of contacts with scholars all over Europe. In 1844 however Minister of War Jean-de-Dieu Soult (1769-1851) refused to appoint Catalan in the office of *répétiteur-en-titre*, notwithstanding the fact that he was stated first on the list of candidates. Following a reorganization of the school, he also lost the title of *examineur-suppléant*. Around the same time he was given the opportunity to assist Professor Louis-Benjamin Francœur (1773-1849) in his teachings at the Sorbonne. But again the Ministry blocked his career. In a letter to Catalan, Francœur tells more about the cause of the rejection: “I am told that the repulsion you experienced, comes from the fact that you are known for your republican opinions.” [27] Indeed, Catalan did not really hide his views from his colleagues, and he aroused suspicion by being involved in some minor disorders – nothing that was really shocking, but serious enough to get compromised in an already highly competitive scholarly environment. He compensated his deception by obtaining the *agrégation* degree (aggregation). Thus he could be nominated as *agrégé divisionnaire* at the *Collège Charlemagne* [28].

### **Making history: 1848**

Despite his misfortune, Catalan again chose sides in February 1848. France was in crisis. The Government was under attack of the republicans both because of the economic and sanitary catastrophe that hit the working people and because of Government opposition against electoral reform. This ended up in the famous “banquets” – organized in various cities – which were in reality political gatherings of opponents against the people in power.

When the Government issued a ban against the organization of such a banquet in Paris on February 22, 1848, all hell broke loose. Catalan was excited by the tension rising in the streets of Paris. On February 21, he participated in some smaller rumble with the cavalry near

Place de la Révolution and the Madeleine. The next day, on February 22, he was near the *quartier Saint-Martin* where fighting started. On February 23, 24 and 25 Catalan was to be found in the midst of an historic event, the taking of the *Hôtel de Ville* and the birth of the Second Republic, as he explained some days later in a letter addressed to his grandfather: “I headed a small band of workers; [...] I entered City Hall immediately after the students of the Polytechnic; [...] I walked towards the Tuileries, with the 34<sup>th</sup> *Régiment de Ligne* and two pieces of cannon, [...] if I did not take the Tuileries, this was the fault of General Taillandier, who gave the order to turn left, despite my protests; [...] Back at City Hall, without firing a shot, I contributed to the appointment of a Provisional Government and the proclamation of the Republic; [...] On Friday morning between Lamartine and Garnier-Pagès, I served as a citizen Clerk; [...] I was given a position of trust in the 6<sup>th</sup> Arrondissement. After that I returned to the deepest obscurity.” [29]

Catalan was apparently a fervent partisan of the *Comité électoral démocratique*, which would later change its name into *Société démocratique centrale*. This Committee, presided by Auguste Guinard (1836-1916), advocated in favour of sovereignty of the people through the introduction of universal suffrage, of national, common, free and compulsory education for all, of freedom of worship, etc. Catalan admitted the work of this Committee took all his evenings. Catalan was also a member of the Board of the *Association républicaine pour l'enseignement national* [30]. He was a candidate for a seat in the *Assemblée nationale constituante* held on April 23, but he did not get elected.

### **The days of disillusionment**

But soon the joy of victory turned into disillusionment. Catalan observed that the revolutionary spirit lost cohesion. He saw les *journées de juin* as a real failure. A new revolt broke out in June 1848. Its leaders were the working people who were hit by the closure of the *Ateliers nationaux*. The fight caused a split in the movement that laid the foundation of the new Republic. Catalan gave way to his frustrations in another letter addressed to his grandfather: “As I write, we are in full insurrection. But, alas! It is not that of February 23! It is war between the bourgeoisie and the people. It is a lamentable war: both parties carry the same banner, both parties shout ‘Long live the Republic!’ Where will this lead us? I was down in the street at the first drumbeat, for the purpose of maintaining order. But when, after three hours [...] I saw that my dear comrades were loading their weapons and were preparing to defend themselves, or to attack, I deserted. I cannot shoot people among whom I was on February 24, on men who shout just like me ‘Long live the democratic and social Republic!’” [31] From a window he saw the violence committed in front of his house on Île Saint-Louis. In total more than 5.000 people were killed. A new actor soon appeared on the political stage. On December 10, 1848, Charles Louis Napoléon Bonaparte (1808-1873) was elected President of the French Republic.

Professionally, things did not quite evolve as expected. Catalan again missed an appointment at the *École polytechnique* and had to be satisfied with the position of *professeur suppléant* at the *Lycée Saint-Louis*. Due to an administrative question he even lost his old post of *répétiteur-adjoint* at the *École polytechnique* [32]. And the situation worsened. On December 1, 1851 Bonaparte staged a coup. Catalan participated in a last republican street fight but soon understood that it was all to no avail. Nothing could be done against the extreme violence committed by Napoleon’s troops in the following days. Years later, Catalan

would still suffer from the trauma. In his diary he noted down: “The dreadful night between 4 and 5 December 1851... I still hear these bands of assassins, bribed by Bonaparte (with the money he had just stolen from the Bank of France), singing, shouting and dancing! Since then, everything in uniform horrifies me.” [33] He was desperate about the future. And indeed, catastrophe arrived soon. When a new rule was issued, stipulating that all state officials must swear the oath of allegiance to Bonaparte, who would soon be declared Emperor under the name of Napoleon III, Catalan refused (May 18, 1852). He immediately lost his job at the *Lycée Saint-Louis* (June 4, 1852) and was obliged to turn to private teaching and the editing of mathematical schoolbooks in order to make a living [34]. In the coming years his republican activism was put on hold.

### **The political commentator**

We know part of Catalan’s inner life in this period. He wrote his diary between 1858 and 1862. In fact, it is not a diary in the strict sense of the word, but rather a series of cynical comments either on news items he read in the newspapers or on rumours he picked up in bars such as *Le Procope* or when visiting friends.

One of the favourite targets of his mockery was Napoleon III and his family. When the Emperor escaped an assassination attempt on January 14, 1858, Catalan dryly noted down: “We see once again that God protects the innocent.” [35] A few days later he added with a little bit more seriousness: “Many people regret, with reason, that the conspirators were not afraid to kill a lot of innocent people in order to hit one single man. These people could, with far more reason, abhor the means that Bonaparte used to establish his dominance. After all, January 14 is a small December 4.” [36] Here he alluded to the terrible repression of the revolt on December 4, 1851 – more than 500 people were killed and 25.000 arrested. He bitterly condemned the police state, the machinations set up by spies, the deportation of prisoners to Algeria and Cayenne, but also the indifference showed by a large part of the population, which remained unresponsive. A new law – the *Loi de Sûreté générale*, voted on February 19, 1858 – again provoked many arrests. Among the arrested were advocates, men of letters and Freemasons [37]. Catalan feared a new Terror. Confronted with all this political misery, he developed a nostalgic bitterness: “In 1849, Bonaparte, who was not even a corporal, was travestied into a general [...]. If, as I asked at that time, he had just been handed over to the Correctional Court under article 259 of the penal code, we would not have had a December 2. Unfortunately, the men in charge of law enforcement were enemies of the Republic. Why did the Republic, when she was all-powerful, spare them?” [38] On the other hand, he got excited, and slightly hopeful, when political events abroad complicated Napoleon III’s domestic politics. On the international scene Catalan followed with much interest the Italian question, but he remained somewhat aloof regarding the intentions displayed by King Victor Emmanuel of Sardinia (1820-1878), Camillo Benso di Cavour (1810-1861) or Giuseppe Garibaldi (1807-1882).

Catalan also followed debates on human rights with much interest. With regard to the attribution of full political rights to Jews – a question much debated at the time in the British House of Parliament – he could not understand the opponents who judged Jewish religion as immoral, antinational and antisocial, and he applauded when the bill finally passed the House of Lords, allowing Jews to become MP’s. What the British needed – in his view – was “a grand (17)89” [39], which would end at once all resistance against universal human rights. He also criticized British colonial rule in India because of the massacres committed against local



populations and illegal confiscations made without any respect for the right of land ownership [40]. He also was in favour of equal rights for both Native Americans and African Americans in the United States [41].

### **The Freemason and his ideals**

With regard to the Catholic Church Catalan remained largely indifferent, in the sense that he shared no personal history with the institution. Rome's problems certainly were not his. From time to time he virulently criticized books written by Catholic authors who, in his opinion, became too excited by miracles and relics [42], and he thoroughly analysed papal encyclical letters, always refuting their content. On a more personal level however, he seems to have respected people of every faith.

But for Popes or Cardinals he had no sympathy whatsoever. In fact, he knew all too well that, as a Freemason, he was an outcast. On November 7, 1858 he added a curious comment to his diary: "The Bishop of Buenos Aires comes to excommunicate the Freemasons, who make up a very important and a very honourable part of the population. The Bishop said that the Masonic principles are incompatible with the doctrine of the Holy Catholic, Apostolic and Roman Church. Even better, the houses where the Freemasons live were declared contaminated, and devotees dare not venture to put one foot on the sidewalks of these cursed homes. This Bishop seems a man consistent with his principles, but he comes somewhat late: it is more than a century ago that we have been excommunicated by the Pope." [43] To compensate this somewhat annoying news, two days later he proudly noted down another remark on Freemasonry: "Here is the counterweight against the excommunication by the poor Bishop of Buenos Aires. Lamartine has sent a very nice letter to the members of the Masonic Lodge of Macon. He said: 'We can lift the curtain of your mysteries without fear of discovering something other than service to humanity.'" [44]

Some years later, in November 1861, Catalan copied in his diary quotes from an open letter dealing with Freemasonry and addressed by the Bishop of Nîmes to the Minister of Education, in which the Masonic Order was accused – among other thing – of stimulating selfishness. Catalan was deeply offended by the content of the letter. He was of the opinion that it surpassed in violence all the other Catholic writings about Freemasonry. A few days later he returned on the subject. With satisfaction, he read in the newspaper that the Minister had given an appropriate response, calling it "a masterpiece of moderation and convenience." [45]

Thanks to François Jongmans's research we now know a part of Catalan's itinerary as a Freemason. He was a member of the *Grand Orient de France*. We do not know where or when Catalan got initiated in the Royal Art, but on November 28, 1854 he affiliated to the Masonic Lodge *La Sincère Amitié* in Paris, in the degree of Fellowcraft (2<sup>nd</sup> degree, *compagnon*). Three years later he moved to the Masonic Lodge *Les Amis de l'Ordre*, where he became Venerable Master (*Vénérable Maître*) [46]. More than likely Catalan continued his Masonic trail in Liege, but for now we do not yet have the sources to follow its trajectory.

But what did Freemasonry really mean to Catalan? He selected one of his Masonic discourses for publication is his work *Miettes littéraires et politiques*, what probably means that he himself was of the opinion that the text was sufficiently relevant to share it with the non-initiated. In fact, it is a detailed personal reflexion, dating from the year 1857, about the real purpose of Freemasonry.

To Catalan it was an important question. At the time he drew up his argument, the role Freemasonry had to play in society was the subject of debate. For some, Freemasonry should be nothing more than a society of mutual assistance (*une Société de Secours mutuels*). Before giving his definitive answer, Catalan invited his brothers to look back and contemplate the Order's history. To him the roots of Freemasonry were to be found in the fact that some sages and philosophers, all men of good will, felt the need to resist tyrants and priests, who by idolatry chained what he called "natural religion". In contrast, a cult of Reason had been developed, which, however, was confessed in seclusion because of oppression.

Fused with the ideas of the Enlightenment, Freemasonry transformed into a lofty cooperation based on perfect equality, averse to the prevailing social order. In Catalan's vision Freemasonry was in essence a militant organisation, in other words, much more than just a society of mutual assistance. He himself spoke of "a peaceful army of progress" (*une Armée pacifique du progrès*), a counterweight against Catholicism, the enemy of Reason. Thus Freemasonry was important both in a spiritual and a political sense. With regard to the political aspect, its doctrine was defined by three core principles: liberty, equality and brotherhood. In Catalan's view it ought to be the motto of all peoples.

He thus came to the following conclusion: "[...] my brothers, let us speed up by our efforts, the moment when Liberty, Equality and Brotherhood undivided reign mankind, stripped of all despotism, and make it one single family! Then national hatreds, religious fury will be extinct; then will we no longer see, as now, a people spending gold and blood to exterminate another people; then all the material in our arsenals will be transformed into agricultural and industrial machinery; then will we not believe that for a long succession of ages, the main wealth of states has been devoted to feed, house and maintain widely bands who were idle or killed; then customs, grants, passports, protective tariffs, and all other barriers to the free expansion of peoples, which despots have imagined, will have joined the chains and barriers that once saddened our cities and countryside; then, finally, Freemasonry will have achieved its purpose; for, my brothers, if you approve what you have heard, if you think I am not wrong in my assessment, let me make the following reply to the question proposed: 'The purpose of Freemasonry is the application in the near future, and among all peoples, of the doctrines contained in the Masonic formula Liberty, Equality, Brotherhood'." [47] The least one can say is that Catalan, despite many setbacks and failures, kept his old ideals, and brought them, through his engagement in Freemasonry, to a higher level of spiritual refinement. His message was heard and appreciated. Sometime after the Masonic discourse was republished in 1892, Catalan received congratulations from Charles-Auguste Houzeau de Lehaie (1832-1922), a Freemason who at that moment was Grand Master of the *Grand Orient de Belgique*. [48]

### **Concluding remarks**

When the year 1860 approached, Catalan hoped he could profit from an amnesty measure that would also apply to the education system. He wrote two letters to the French Minister of Education requesting an appointment at one of the important *Lycées* in Paris. The Minister replied that his Administration was not opposed to amnesty, but Catalan's chances to get nominated were small, as the officials were unable to estimate with precision the merits of his teaching. Younger colleagues who were hoping for a position were perhaps better placed [49].

When some years later, in 1864, the private school where Catalan taught was closed down, he desperately needed a new source of income. In 1865 the University of Liège

proposed Catalan a Chair in Mathematics. He maintained excellent contacts with Belgian scholars and politicians, in particular Adolphe Quetelet (1796-1874), Louis Melsens (1814-1886) and Charles Rogier (1800-1885). But in this case, the initiative seems to have come both from Anatole-Henri-Ernest Lamarle (1806-1875) [50], Professor at the University of Ghent, and from Professor Michel Gloesener (1794-1876) [51] with whom Catalan was in contact since many years [52]. Thanks to the latter, Catalan already had been elected corresponding member of the *Société royale des Sciences naturelles de Liège* in 1856 [53]. Contrary to previous offers, Catalan now did not hesitate for one moment and accepted.

In Belgium, Catalan started a new career, and with more success than in France. Both the hospitality he experienced in Liège and the liberal laws that governed Belgian society tempered his political activism. He put all his energy in the principal heritage the Republic and its ideologists had left him: recognizing the value of education, sharing knowledge on a universal scale, and thus contributing to the progress of humanity.

In that sense, he remained faithful to his principles. One can conclude that in the story of Catalan's life the common thread was his belief that the triad "Liberty, Equality, Brotherhood" entailed a permanent incentive, a continuous motivation for performing deliberate actions and campaigns in favour of a fair and harmonious society.

Please, allow me to end with a wish. To my knowledge, there is no *rue Eugène Catalan* in Liège. Maybe it is time to make one.

## **Bibliography**

- [1] R. HALLEUX, "La marche des idées", in: R. HALLEUX, J. VANDERSMISSEN, A. DESPY-MEYER, G. VANPAEMEL (eds), *Histoire des sciences en Belgique 1815-2000*, Brussels-Tournai, Dexia-La Renaissance du Livre, 2001, vol. 1, pp. 18-19.
- [2] The entire speech is published online, text consulted on Sunday 28 September 2014: [http://www-history.mcs.st-andrews.ac.uk/Extras/Catalan\\_retirement\\_f.html](http://www-history.mcs.st-andrews.ac.uk/Extras/Catalan_retirement_f.html)
- [3] *Miettes littéraires et politiques par un vieux mathématicien*, Liège, Imprimerie H. Vaillant-Carmanne, 1889, second ed. 1892.
- [4] Liège, Université de Liège, Bibliothèque générale, Salle des manuscrits, Ms 1307C, *Correspondance d'Eugène Catalan*, 11 vol.
- [5] Liège, Université de Liège, Bibliothèque générale, Salle des manuscrits, Ms 1308, *Journal d'un bourgeois de Paris*, 7 vol.
- [6] Liège, Université de Liège, Centre d'Histoire des Sciences et des Techniques, 17 place Delcour, 4020 Liège.
- [7] See his numerous publications on this subject: F. JONGMANS, *Eugène Catalan. Géomètre sans patrie. Républicain sans république*, Mons, Société belge des Professeurs de Mathématique d'Expression française, 1996; F. JONGMANS, "Une élection orageuse à l'Institut", *Bulletin de la Société royale des Sciences à Liège*, 1986, vol. 55, pp. 581-603; P. BUTZER & F. JONGMANS, "P.L. Chebyshev and his contacts with Western European scientists", *Historia Mathematica*, 1989, vol. 16, pp. 46-48; P. BUTZER & F. JONGMANS, "Eugène Catalan and the rise of Russian science", *Bulletin de la Classe des Sciences de l'Académie royale de Belgique*, 1991, S. 6, vol. 2, pp. 59-90; P. BUTZER & F. JONGMANS, "Les

relations épistolaires entre Eugène Catalan et Ernesto Cesàro”, *Bulletin de la Classe des Sciences de l’Académie royale de Belgique*, 1990, S. 6, vol. 10, pp. 223-271; F. JONGMANS, “Sur les traces d’Eugène Catalan”, *Bulletin de la Classe des Sciences de l’Académie royale de Belgique*, 2002, vol. 13, pp. 73-90.

[8] B. YVERT, *La Restauration. Les idées et les hommes*, Paris, CNRS Éditions, 2014, p. 10.

[9] *Miettes...*, p. 6.

[10] *Ibidem*, pp. 7-8.

[11] *Ibidem*, pp. 19-29.

[12] *Ibidem*, p. 10.

[13] *Ibidem*, p. 12.

[14] *Journal d’un bourgeois de Paris*, March 12, 1860.

[15] *Correspondence*, letter of invitation addressed by the *Association libre pour l’éducation du peuple* to Catalan, Paris, October 5, 1832.

[16] *Miettes...*, p. 12.

[17] *Ibidem*, p. 18.

[18] *Ibidem*, pp. 31-36.

[19] *Correspondence*, Alexandre-Marie Gouget, chief of police in the *quartier du Marais*, to Catalan, Paris, November 9, 1832.

[20] *Correspondence*, Tugnot de Lanoye to Catalan, October 21, 1833.

[21] *Correspondence*, Thiou to Catalan, December 14, 1833.

[22] F. JONGMANS, *Op. cit.*, 1996, p. 20.

[23] *Miettes...*, p. 41.

[24] *Ibidem*, pp. 42-44.

[25] *Correspondence*, Tholosé to Catalan, October 7, 1835.

[26] *Correspondence*, Doguerau to Catalan, July 6, 1839.

[27] *Correspondence*, Francœur to Catalan, December 10, 1844. Quoted in: F. JONGMANS, *Op. cit.* 1996, p. 43.

[28] *Correspondence*, Poirson to Catalan, November 4, 1846; see also: F. JONGMANS, *Op. cit.* 1996, pp. 43-46.

[29] *Miettes...*, pp. 68-70.

[30] *Correspondence*, Bonet to Catalan, December 9, 1850.

[31] *Miettes...*, pp. 70-71.

[32] *Correspondence*, Jacques to Catalan, March 22, 1848.

[33] *Journal d’un bourgeois de Paris*, vol. 2, fol. 112v, April 24, 1859.

[34] F. JONGMANS, *Op. cit.* 1996, pp. 59-60.

[35] *Journal d’un bourgeois de Paris*, vol. 1, fol. 5r, January 13, 1858.

[36] *Ibidem*, vol. 1, fol. 7r, January 18, 1858.

- [37] *Ibidem*, vol. 1, fol. 32r, February 28, 1858.
- [38] *Ibidem*, vol. 1, fol. 44v, March 21, 1858.
- [39] *Ibidem*, vol. 1, fol. 46v.
- [40] *Ibidem*, vol. 1, fol. 76r, May 7, 1858.
- [41] *Ibidem*, vol. 1, fol. 83r, May 16, 1858.
- [42] *Ibidem*, vol. 1, fol. 1v-2r, January 1, 1858.
- [43] *Ibidem*, vol. 1, fol. 174r, November 7, 1858.
- [44] *Ibidem*, vol. 1, fol. 174v, November 9, 1858.
- [45] *Ibidem*, vol. 6, fol. 140v-141r, November 7, 1861, fol. 143v, November 9, 1861.
- [46] F. JONGMANS, *Op. cit.* 1996, pp. 72-73.
- [47] *Miettes...*, pp. 84-85.
- [48] *Correspondence*, Houzeau de Lehaie to Catalan, February 5, 1893.
- [49] *Journal d'un bourgeois de Paris*, vol. 3, fol. 124r-125v, September 30, 1859.
- [50] *Correspondence*, Lamarle to Catalan, January 24, 1865; Lamarle to Catalan, January 28, 1865.
- [51] *Correspondence*, Gloesener to Catalan, February 18, 1865.
- [52] *Correspondence*, Gloesener to Catalan, December 24, 1855.
- [53] *Correspondence*, Gloesener to Catalan, January 31, 1856.