

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/263539622>

The private life of Henri Fayol and his motivation to build a management science

Article in *Journal of Management History* · September 2012

DOI: 10.1108/17511341211258774

CITATIONS

9

READS

4,319

2 authors, including:



Cameron Guthrie

Toulouse Business School

21 PUBLICATIONS 214 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



Education and Statistics [View project](#)



Digital transformation [View project](#)



The private life of Henri Fayol and his motivation to build a management science

The private life
of Henri Fayol

469

Jean-Louis Peaucelle

*(Formerly) University of Reunion Island, Saint Gilles les Bains,
Reunion Island*

Cameron Guthrie

Toulouse Business School, Université de Toulouse, Toulouse, France

Abstract

Purpose – The aim is to identify Henri Fayol's motivations as an accomplished business manager to publish his management theory at the age of 75.

Design/methodology/approach – The authors retrace Henri Fayol's private life using primary sources from various French public archives including civil registry records, military and diplomatic archives, schooling records, publications from learned associations and inheritance declarations. They then use a psychological theory, namely equity theory, to interpret this new information about Fayol's private life and construct an explanation of his efforts to theorise his management experience.

Findings – Henri Fayol's schooling and his father's military career respectively influenced his perception of mathematics teaching in management training and the functioning of the army. His motivation to found a science of management was not financial but instead most probably a response to the obstacles his father encountered during his career.

Research limitations/implications – It is rarely known what motivates a manager to collaborate with specialists in management science. This research into Henri Fayol's motivations can be replicated for other managers.

Practical implications – The paper identifies one major practical implication for managers who wish to contribute to management theory as Fayol did. Before they begin such an undertaking, it is important for them to reflect upon their motivations. Their motivations as managers, based on financial and business success are insufficient. Deeper motivations are needed, that are anchored in their own personal history to drive the considerable intellectual investment that is necessary for them to be successful contributors.

Social implications – The results encourage managers to contribute to building and improving management science. They can theorize their experiences in dealing with the management of contemporary issues such as sustainable development and social responsibility. They must do so as Fayol did: using scientific method and strongly motivated by personal beliefs.

Originality/value – The research question is original: "What motivated Fayol to build his management doctrine?". Scholars rarely ask why individuals decide to build and organize knowledge. This question is relevant for managers today as they too can bring original contributions to management thought. The paper reports previously unpublished details about Fayol's life to answer the research question, and in doing so completes and corrects the works of Sasaki Tsuneo and Henri Verney.

Keywords Fayolism, Motivation (psychology), Scientific work, Research, Business environment, Business history, Management theory

Paper type General review



1. Introduction

Much has been written about Henri Fayol's work, but little is known of his motivations. What could have motivated Henri Fayol to formalise and publish his management theory at the age of 75 after a long and successful business career? He had successfully managed the Commentry-Fourchambault company, a 10,000-employee strong metallurgy and mining endeavour for 28 years before he published his management theory in 1916. He collected and recorded observations throughout his career and spent the last 15 years of his tenure as managing director writing and promoting his doctrine. His contribution was a major one and is still considered relevant today (Pryor and Taneja, 2010).

Henri Fayol's motivation would not have been financial as he had already made his fortune and was a part of the French bourgeoisie as managing director of a large enterprise. We suggest that his motivation may be found in his private life. In the first parts of our text, we reconstruct his extra-professional life based on available official sources. The last part uses a psychological theory, equity theory to offer an explanation of his motivations to build a new science.

One motivation may have been a quest for intellectual success to avenge his father's restricted military career. Henri Fayol's father had a career in the military. He joined as a simple soldier and quickly rose through the ranks. He remained however a non-commissioned officer. His speciality was the artillery and to become an officer he had to attend the Ecole Polytechnique. It was no doubt a rebuff for the Fayol family. Henri Fayol junior sought to surpass these limits within the institutional and social context of nineteenth century France. We look more closely at Henri Fayol's family background, his schooling and his extra professional activities to improve our understanding of his motivations.

Very little is known about (Jules) Henri Fayol's private life. Only two documents broach the subject. In his authorized biography of Henri Fayol, Henri Verney only notes that he came "from a lower middle-class family in all circumstances so admirable in its understanding of the worth of its children and always knowing what sacrifices to make for strongly asserted callings" (Verney, 1925, p. 3). Henri Fayol himself had told Verney what to write. Sasaki Tsuneo more recently published the results of his research into Henri Fayol's family (Sasaki, 1995). He visited Henri Fayol's descendants still living in France. His genealogical source was Anne Marie Grangé de Presles, the widow of Henri Fayol's grandson, Maxime Grangé. These two biographies are incomplete, in particular concerning Henri Fayol's father, André Fayol. We know that he was born in 1805 in the small commune of Le Veurdre in the North of the Allier administrative division in central France however we have few details about his work that took him to Istanbul in Turkey and La Voulte-sur-Rhône ("La Voulte") in the Ardeche area in Southern France.

The lack of reliable information on Henri Fayol's ancestors shows that neither he nor his brother Paul spoke about them to others. Their silence may reflect a hidden and deep influence. The Fayol's either consciously or unconsciously chose not to evoke them. To know more, it is necessary to consult sources that were not available to Sasaki: Henri Fayol's school records at the École Nationale Supérieure des Mines de Saint Etienne, his *Legion d'honneur* file, and the family records held by the civil registry. They are the main sources we use to better describe his private life and move

beyond the well-known areas of his professional life and the development of his ideas (Peaucelle *et al.*, 2003).

The ancestors of Henri Fayol and his wife were neither wealthy nor labourers. They belonged to an intermediary class of merchants. They are discussed in the first part of this article. Henri Fayol's wife, his children, his brother and his sister, are discussed in the second section. We will see that the family environment was one of industrial managers, socially above that of their ancestors. The third part of the article discusses Fayol's schooling, his extra-corporate responsibilities and his standard of living.

2. Henri Fayol's ancestors

Henri Fayol's ancestors lived in the town of Le Veurdre in the eighteenth century. They were merchants, using their small personal capital and travelling to do trade. Henri Fayol's father André Fayol followed this tradition, working throughout France and Europe. His wife's family were also merchants but with more money invested in their business. Both families climbed the social ladder generation after generation.

2.1 *The Fayols of Le Veurdre*

Le Veurdre is a village lying on the confluence of the Bieudre and Allier rivers in central France. The first known Fayol in Le Veurdre was Jean Guillaume Fayol (1727-1796), a weaver by profession (see Figure 1). His profession was recorded as "weaver merchant" (*tisserand négociant*). One possible interpretation of this trade is as follows. In the Auvergne mountains, weavers worked the wool at home, particularly in winter. In the springtime, the merchants collected the cloth and brought them to town to sell. The Allier River was used as a transport route. The "weaver merchant" was no doubt an important intermediary in the eighteenth century, enabling the sale of home woven cloths. It is likely that Jean Guillaume also worked as a "weaver merchant", which would explain why he settled in Le Veurdre, a port on the inland waterways. Henri Fayol's two uncles were also merchants in the same area. There was a family tradition of trading which required a large amount of travel.

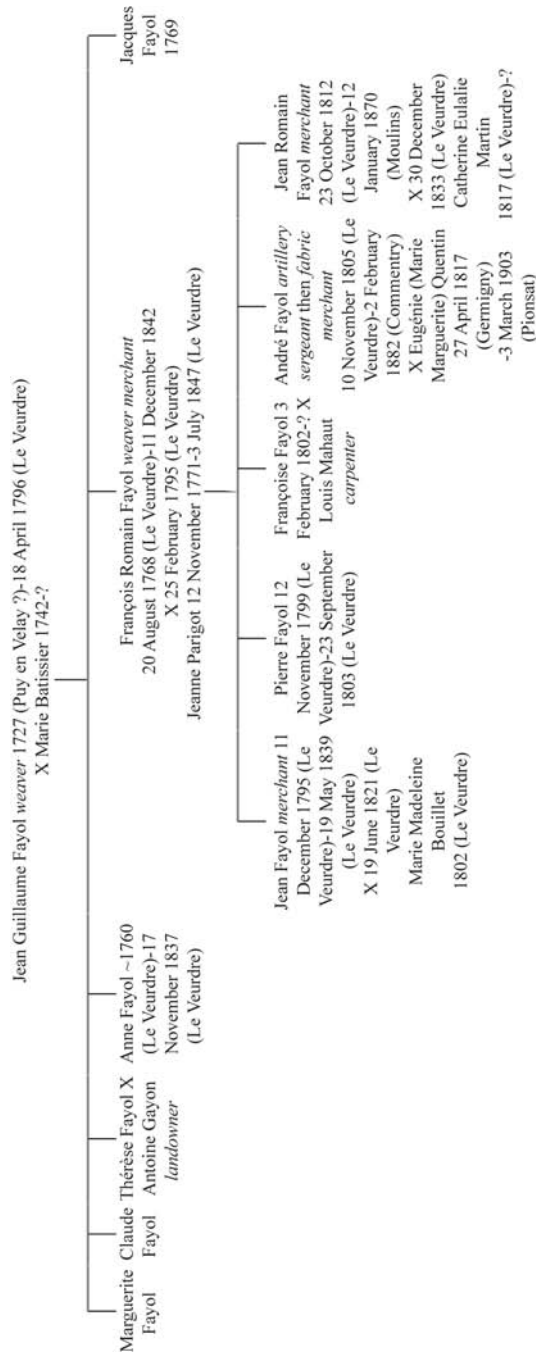
Jean Guillaume Fayol also ran an inn in Le Veurdre in 1776 (Le Brun, 1913, p. 546). He had five children, including Henri Fayol's grandfather, François Romain Fayol. The family tree in Figure 1 was established from registry office records.

2.2 *André Fayol, Henri Fayol's father*

André Fayol was born in Le Veurdre on 10 November 1805. On 29 September 1826 he joined the 2nd Artillery Workers Company based in Toulouse. He was sent as part of occupying forces to Spain following France's Spanish expedition to support King Ferdinand VII. André Fayol was quickly promoted: 2nd class worker on 20 December 1827, master worker on 7 August 1828, corporal on 21 May 1829 and sergeant on 8 January 1832. On 29 January 1832 he joined the 1st Artillery Workers Company in Metz. On 30 December 1833 he signed his younger brother's marriage certificate as "sergeant in the artillery workers". He re-enrolled in the Army in 1833, 1835 and 1837. On 27 March 1838 he changed his status from a servicemen to that of state labourer (*ouvrier d'état*) (SHD 36YC872). His profession however remained the same (Mortal, 2007, p. 76).

The Artillery Companies were composed of a Captain, a First Officer, a Lieutenant, a Second Lieutenant, a First Sergeant, five Sergeants, a Company Clerk, five Corporals,

Figure 1.
The Fayols in Le Veurdre
in the eighteenth and
nineteenth centuries



Source: ADAI, registry office

20 first-class workers, 20 second-class workers, 30 apprentices and one drummer. Overall there were four officers, 12 non-commissioned officers and 70 workers. Their role was to provide technical assistance to gunners although they were never involved in firing artillery.

While stationed in Metz, André Fayol met Emile Auguste Ernest Julia (1813-1883), a lieutenant in the 11th Artillery Workers Company. Julia had studied at the Ecole Polytechnique and undertook his military specialisation in Metz. He was promoted up to the grade of Major before retiring in 1868.

There was a great deal of technological innovation in the artillery at the time. The solid, round, cannonball was replaced by the more devastating cast-iron spherical common shell that exploded on impact. Ogival shells also containing an explosive were introduced in 1860. Their rotating movement made them more accurate. Spherical common shells were only used for several decades. France began producing hollow projectiles in 1820 although they had been tried from as early as 1795 (Paixhans, 1822, SHD 4W406). They copied the English artillery that had used “shrapnel shells” against Napoleon. These projectiles were manufactured in Army controlled arsenals, such as those in the Ardennes, and also by private entrepreneurs under the supervision of state appointed quality controllers.

Such an innovation could not remain a secret. In February 1840 the Turkish Ambassador to Paris requested that two officers and two non commissioned officers work for the Sultan (AMAE P00662 fol 3, 36, 94 et 109). They quickly left for Turkey, and the French Ambassador in Istanbul wrote on 28 May 1840: “M Emile Julia artillery lieutenant... has arrived in Constantinople... accompanied by several non commissioned officers from his service” (AMAE, P00662 fol 233). André Fayol took part in this mission. The financial conditions were advantageous. In France, an artillery labourer earned between 1 and 2 French Francs per day, and 2.5 to 3 for an overseer; Fayol was offered twice that sum to go to Istanbul.

Lieutenant Julia helped the Turks plan their new military base in Scutari (AMAE P00663 fol 32); today it is the Üsküdar district in Istanbul lying on the Asian bank of the Bosphorus. André Fayol most likely worked at the Tophane-i Amire canon factory to show how to make cast-iron spherical common shells. The factory was in the Pera quarter of Istanbul. He lived nearby and baptized his son Henri Fayol at the local Saint Antoine de Padoue Catholic Church on 5 September 1841 (AN LH/950/16). Henri Fayol was born in Istanbul on 29 July 1841.

André Fayol returned to France in 1844 and was stationed at the munitions factory in Toulouse. He lived close by in a small rental apartment, 15 Rue Pargaminières. His first concern was to have his son’s birth certificate authenticated by French authorities. A Toulouse notary recorded Henri Fayol’s birth on 4 May 1844 and recorded André Fayol’s profession as “state worker employed at the Toulouse munitions factory”. The return to barracks life was probably difficult after the freedom of his military advisory role abroad where he had been treated as an officer (AMAE P00662 fol 109). André Fayol resigned as a state worker and left for La Voulte later that same year.

La Voulte was the site of a large steelworks equipped with four blast furnaces. The coal was shipped down the Rhône from Rive de Gier and iron ore was mined locally. Ore was later shipped by rail from Privas when the small local mine (240 m long and 50 m wide) was exhausted. The La Voulte mine employed 200 workers who extracted 60,000 tons of iron ore per year. The steelworks employed the same number of workers.

It was the main activity for the village of 3,000 inhabitants. The factory closed down in 1888.

The steelworks manufactured a number of products including cannon balls that it sent to Toulon (du Boys, 1842, pp. 139-140). André Fayol was probably recruited as an expert in their manufacture. When his children Paul and Mélina were born on 4 December 1844 and 23 November 1851 his profession was recorded as “factory employee” at La Voulte. It is again recorded in Henri Fayol’s 1858 school record as “foundry employee” at La Voulte (Archives ENSMSE). The term “employee” means that André Fayol was neither considered a worker nor an engineer. His technical expertise in founding hollow balls was not recognised even though his function was most probably that of a “quality manager”.

André Fayol worked at the steelworks for about 20 years. In 1864 his profession is recorded in Paul Fayol’s school files as “merchant at La Voulte” (Archives ENSMSE). He changed profession when he was close to 60, most likely when the production of cast-iron spherical common shells ceased. In 1869 he was a “merchant of novelties” together with three local competitors (Bottin, 1868-1885). This term was used at the time for the retail of “fashionable” clothing fabrics. At Paul Fayol’s marriage in 1870 André Fayol again recorded his profession as a “merchant of novelties”. His business must have been successful as he later recorded his profession as “owner” at Henri Fayol’s marriage in 1875 (ADA1).

André Fayol’s professional life was characterised by significant professional and geographic mobility as he moved between Le Veudre, Toulouse, Metz, Istanbul and La Voulte. He was a soldier in the artillery, a foundry specialist and even a textile merchant. Such occupational mobility was exceptional in nineteenth century France. It reveals a rare intelligence and an ability to learn. It also indicates that André Fayol did not have the career he deserved. First, after joining the Army he was quickly promoted to the grade of sergeant. He could not become an officer as all officers in the artillery studied at the Ecole Polytechnique. He volunteered for a mission in Turkey where he worked closely with an artillery officer who he found lacked the necessary metallurgical knowledge. When he returned to the arsenal in Toulouse, he had trouble re-adjusting to life in the barracks and resigned. This experience was no doubt known to the Fayol children. A father would certainly tell stories of the times when his superiors were incompetent.

Henri Fayol was close to his father. André Fayol died on 2 February 1882 at his son’s house in Commentry, where he is buried today. Henri Fayol never spoke publicly of his father, yet he had numerous opportunities to do so. When he spoke of his lack of metallurgical skills he could have mentioned that his father had possessed them. When he spoke of his experience as an entrepreneur, he could have referred to his father’s entrepreneurial spirit, beginning a new professional activity at the age of 60. The fact that Henri Fayol never evoked his father may be interpreted as a sign of his emotional attachment to him.

Henri Fayol’s reluctance to talk of his father was possibly due to some unconscious rancour. He no doubt wished that his father’s intelligence be acknowledged. While we cannot prove this psychological hypothesis, it is interesting for managers to reflect upon it when they consider their motivations to contribute to management theory. Their motivations as managers, based on financial and business success are insufficient. Deeper motivations are needed, that are anchored in their own personal

history to drive the considerable intellectual investment that is necessary for them to be successful contributors.

2.3 Eugénie Quentin, Henri Fayol's mother

Marie Marguerite Quentin was born on 27 April 1817 in Germigny (Eastern France). Later she was called Eugénie. Her father Jean Roch Quentin was a roofer. Her mother Françoise Elisabeth Chaperon was the daughter of a carpenter. They had three daughters and two sons (ADY). The two sons were bargees on the Burgundy Canal that connects the Parisian and Rhone basins, the Yonne to the Saone. The canal was opened in 1832 and goes through Germigny. The Quentin brothers were 20 and 22 at this time.

We do not know where and when André Fayol and Eugénie Quentin met but it was possibly in Istanbul. Eugénie Quentin followed her husband's professional movements from Istanbul to Toulouse and then to La Voulte. When André died she retired to her daughter's house in Pionsat (Puy de Dôme). She died there on 3 March 1903, 30 km from Commentry.

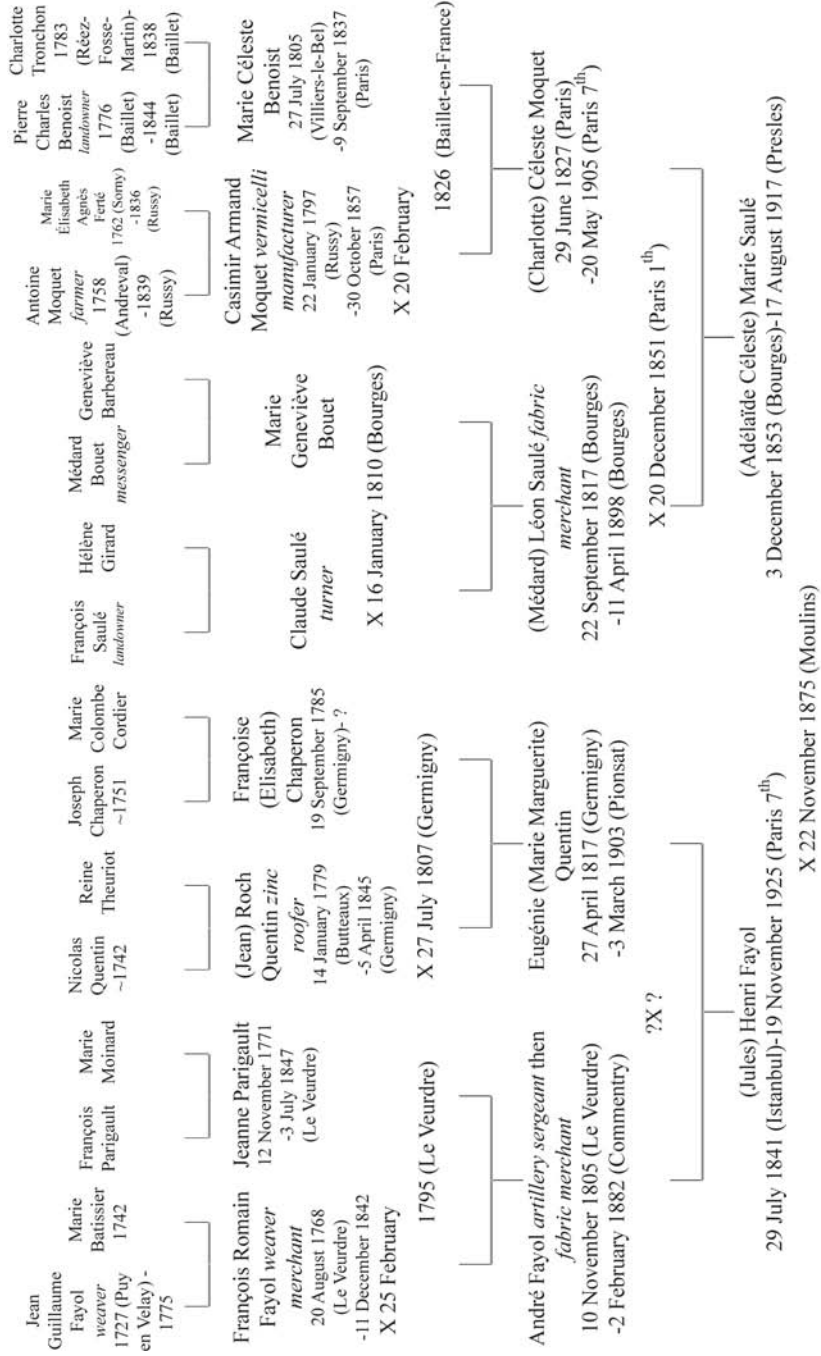
2.4 The ancestors of the Fayol-Saulé couple

All ancestors of Henri Fayol and his wife Marie Saulé can be found in civil registry records (see Figure 2). Most were already socially above the peasant or labourer level. The Saulés and in particular the Moquet's were in the highest social class. Marie Saulé's grandfather was a vermicelli manufacturer in Paris at the beginning of the nineteenth century. His wife's family was one of wealthy merchants. His brother Paul was a mining engineer. His sister Amélie married a pharmacist from Pionsat. His children all found a place in the French bourgeoisie.

We do not have enough space in this article to complete Sasaki Tsuneo's 1995 description of Henri Fayol's family environment but some additional details are important to understand the role of the family in Henri Fayol's life. Henri Fayol maintained strong affective relationships with all his family. Henri Fayol was very attached to his wife's family. For example, he buried both his father-in-law and mother-in-law in the family mausoleum in Presles, a village lying 40 km North of Paris where he had built a house. The choice of Presles may have been influenced by the maternal family of Henri Fayol's mother-in-law, the Benoists who came from Baillet en France, 10 km to the South of Presles. Henri Fayol went to Presles every Sunday to entertain his family. When his wife died, Fayol's daughter Madeleine Grangé looked after her father's housekeeping for him in Presles and in Paris.

Another example of the affective proximity between Henri Fayol and his wife's family is in his choice of those who would award him the Legion of Honour. In 1888 he chose his cousin Gustave Maisondieu to receive the degree of Knight in the National Order of the Legion of Honour (by decree on 12 July 1888), and 25 years later he chose another cousin Marie Alexis Félix Boulet, a retired colonel from the engineering corps to award him with the degree of Officer of the Legion of Honour in Presles on 28 September 1913 (by decree on 5 August 1913). Henri Fayol was particularly fond of Colonel Boulet and they were almost neighbours when the latter retired to Précý sur Oise, 10 km North of Presles.

His friendship with colonel Boulet no doubt gave him a certain understanding of the Army. He was also close to another member of the Army, his sister's brother-in-law



Source: ADAI, ADC, GM

Figure 2.
The ancestors of Henri Fayol and his wife

Charles Agnan Stéphane a military doctor. Charles befriended Henri Fayol who would later be an official witness at his wedding.

His family also benefited from Henri Fayol's professional success. Henri Fayol's younger brother Paul lived in the shadow of his older brother's success. He was less successful at school. Henri helped him professionally at least twice during his career. First, he pursued his third year internship at his brother's company in Commentry from October 1866 to July 1867 (Archives ENSMSE). Second, when Paul Fayol's son Henri died while he was Mine Director at Perrecy les Forges in 1891 Henri Fayol helped him by offering him the role of Director at the Brassac mine, close to his wife's family. Henri Fayol later chose Paul Fayol's son-in-law, a mining engineer from Saint Etienne (class of 1886) by the name of Claude Muguet to become his successor at the head of his company in 1918.

3. Henri Fayol's extra-professional life

Henri Fayol's life was occupied by his professional activities and his research. He had little time for personal activities. His studies at the Ecole des Mineurs de Saint Etienne formed the foundation of his skills and knowledge. The associations he belonged to illustrate his various interests.

3.1 *Henri Fayol's schooling*

Henri Fayol began his schooling in La Voulte, at the Ecole des Maristes that was funded by the local iron mine. He attended the public college in Valence, 20 km to the North of La Voulte, most probably up until the baccalaureate. We do not know if he boarded there or lived with his parents and commuted. He received a classical education, which included the study of Latin. In October 1856 he enrolled at Lycée de Lyon to prepare for the mining entrance exam. He boarded there until August 1857 when he sat and passed the entrance exam for the Ecole des Mineurs in Saint Etienne.

The Ecole des Mineurs de Saint Etienne was founded in 1816. It was managed by the Corps des Mines made up of alumni from the Ecole Polytechnique. The school's mission was "to train the directors of operations and steel factories and foremen" (ADL 9M 216). At the time 20 or so students were recruited each year, based on an oral examination at Rive de Gier or in Saint Etienne with an engineer from a local mine. The program was very simple: arithmetic, elementary geometry, algebra up to second degree equations, drawing and French.

Fayol was admitted in August 1857 at the age of 16. He was advised to wait one year before beginning his studies. We do not know what he did during that time. One possibility is that he remained in preparatory school in Lyon to try to enter the Ecole Polytechnique. This is unlikely as 72 per cent of those admitted to this elite school came from the Paris region (Villemain, 1843, table 28). In any case, he began his first year at the Ecole des Mineurs de Saint Etienne. Tuition was free.

His first year grades are presented in Table I. We note that accounting was taught and that it was an important subject in Fayol's management doctrine. With a total of 757 points out of a possible 997, Henri Fayol was ranked second in his class. Nonetheless, he was awarded the first place as he was considered "intelligent and hard worker". His first ranked classmate, Daniel Murgues had a better grade average but a less flattering evaluation: "Intelligent, but a little careless". Three students out of the class of twenty did not pass through to the second year.

JMH
18,4

478

Subject	Grade	Professor
Mining operations	92/120	Edmond Bour
Surveying	69/100	
Chemistry	74/100	Charles-Romain Lan
Mathematics	55/80	
Physics	54/80	
Mineralogy	52/80	François Jacques Dominique Massieu
Drawing	53/60	
Descriptive geometry	38/50	
Stereotomy	50/50	
Accounting	29/40	
Laboratory	33/40	
Shadows and perspectives	17/20	
Sub-total	616/820	
Average of four final exams	141/177	
Total	757/997	

Table I.
Henri Fayol's grades
during the 1858-1859
school year

Source: Archives (ENSMSE)

Henri Fayol chose to take the mineralogical option in his second year, and not metallurgy, even though his father worked in the metallurgical field. He didn't work as hard in his second year. Four points were deducted for "inaccuracy and lack of application". He was demoted to third place in his class of 14 students. Daniel Murgues was ranked first and was awarded a special prize with the evaluation of "intelligent responsible and very hard worker". Hippolyte Garnier was second with the comment "clear and sound mind, good work". Fayol, at third place was considered "intelligent, work sometimes lacking in energy" (Table II).

The third year of study at the Ecole des Mineurs was a corporate internship. The grade was based on the student's internship report. Henry Fayol worked at the Commentry mine. He considered himself an engineer as early as 1860 even though he was only officially awarded his degree on 24 August 1861.

Subject	Grades	Professors
Metallurgy	102/120	Charles-Romain Lan
Mechanics	72/120	Frédéric Paul Piron
Chemistry	72/100	Charles-Romain Lan
Construction	66/100	
Geology	52/80	François-Ernest Mallard
Laboratory	42,50/60	
Drawing	44,55/60	
Reports and sketches	27/40	
Project analysis (<i>Analyse de concours</i>)	19,50/30	
Sub-total	494,05/710	
Average of four final exams	145/215	
Total	639,05/925	

Table II.
Henri Fayol's grades
during the 1859-1860
school year

Source: Archives (ENSMSE)

In Henri Fayol's class, Daniel Murgues (1840-1918) was the best at mathematics. The son of a labourer in Saint Etienne, he graduated at the top of the class and later became Director of the Montrambert Company (Saint Etienne mines). He was involved in the alumni network, the Saint Etienne Chamber of Commerce and the Société de l'Industrie Minérale.

3.2 Learned associations

It is well known that Henri Fayol's career is one of progressive promotion through the hierarchy at the Commentry-Fourchambault Company. We know less about his many activities in learned associations and societies. Henri Fayol contributed widely to the development of his field sitting on various committees, associations and school advisory boards. They were all in some manner related to his professional, engineering and scientific activities. We will now present these activities in chronological order.

Henri Fayol joined the Société amicale de secours des anciens élèves de l'Ecole des mineurs de Saint-Etienne in 1861. He did not hold any official function although he actively supported the association. Daniel Murgues was regularly elected to the committee and later as president. The association planned to build its head office in Paris, and Fayol gave regular donations to finance this project: 1,000 F in 1897, 2,000 F in 1902 and 3,000 F in 1914. In 1923 at the same time as he launched his successful book *Administration Industrielle et Générale*, he was named honorary president of the association. His old classmates organised a banquet in his honour in the Hoche Room at the Paris Chamber of Commerce on 7 June 1925.

All qualified engineers could join the generalist association Société des Ingénieurs Civils de France. Henri Fayol joined in 1869 (Mémoires ICF, Vol. 23, 1869, p. 22). The association invited him to join the Comité Consultatif des Chemins de Fer, which he did from 1896 to 1903 (Annuaire du CCHF, 1896 p. 210, Mémoires ICF, Vol. 71, 1898, 3e partie p. 40 et Vol. 80, 1903, 1er semestre, p. 270).

Henri Fayol was a member of several learned societies. The Société de l'Industrie Minérale (SIM) was from a social point-of-view the closest to the Ecole des Mineurs de Saint Etienne. He joined in 1869 and published a number of articles in its newsletter, including his management work *Administration Industrielle et Générale* in 1916.

The SIM was organised in regional chapters. Henri Fayol belonged to the "Centre chapter" (central France) that met twice a year in Montluçon. He attended every second meeting. On July 20 1873 he wrote an account of the SIM congress in Douai. On July 9 1876 he spoke about corrosion in boilers. In 1876 and 1877 he had his main engineer from Montvicq speak about drawing timber. On February 24 1878 he presented his "Note on timbering and backfill" that had previously been published in the June SIM newsletter (Bulletin of the SIM). He was elected chapter president during this same meeting. Normally, a president would stay on for several years. However, on February 23 1879 the chapter elected a new president. The engineers enjoyed each other's company in a convivial and informal atmosphere. After his first dogmatic exposé, Henry Fayol presented his "Study of spontaneous fires in the Commentry coal mines" that was later published in the Bulletin of SIM and received a gold medal in 1880. He was vice-president of the organising committee for the 1900 congress. He received a top medal of honour in 1908 for his study into fighting mine fires (Fayol, 1918, p. 4). In 1925 an endowment from Commentry-Fourchambault allowed the SIM to create a new

award. This prize of 1876 Francs was awarded to Henri Verney in 1925 for his book on Henri Fayol.

Henri Fayol was awarded a gold medal at the 1878 and 1889 International Fairs in Paris and the main prize (Grand Prix) in 1900 (Fayol, 1918, p. 4).

Henri Fayol was also a member of the Société Géologique de France (SGF), a learned society of academics and amateur enthusiasts. In August 1888 he invited the SGF to a week's study at Commentry (de Rouville, 1888). In 1900 he was on the organising committee of the Congrès Géologique International à Paris. He again invited conference members to a weeklong excursion to his mines. An account of one such visit is given by Termier (1925). In 1882, Henri Fayol invited final year students at the Ecole des Mines de Paris together with their professors, namely their professor of mineralogy François-Ernest Mallard (1833-1894) and their professor of geology Alexandre-Émile Béguyer de Chancourtois (1820-1886). Pierre Termier (1859-1930 X 1878) participated in the visit as a student at the time. Henri Fayol presented his theory on the formation of coal in torrential deltas. He explained to his guests his "experiments into floating plant matter and how it settled at the bottom of the basin, mixed with sand and mud, carried by the stream". "Mallard was quite rattled, De Chancourtois was sceptical" (Termier, 1925, p. 64). Termier, was most impressed by Fayol's methods. "At this one instant I saw a world of knowledge and the method with which to explore it; I immediately knew that this was my true calling" (Termier, 1925, p. 64). Termier went on to become a professor of mineralogy at the Ecole des Mines in Paris and member of the Académie des Sciences.

Henri Fayol was particularly interested in the training of engineers. In France there was often an advisory board (Conseil de perfectionnement) made up of faculty, alumni and business representatives. Henri Fayol sat on the advisory board of the Ecole des Mines de Saint Etienne from 1892 to 1914. He championed a vision for an engineering school that was both technical, scientific and generalist. It should prepare students for management, include company visits to understand the realities of industry but avoid overly long internships (Garçon, 2004, pp. 321-339). Henri Fayol presented this vision of engineering training in his 1916 work *Administration Industrielle et Générale*.

Henri Fayol opposed Auguste Rateau (1863-1930), a professor at the School between 1888 and 1897. Rateau wanted to raise the level of mathematics by adding more subjects to the programme such as mechanical mathematics. Rateau's proposal involved the creation of a laboratory that students would have had to finance due to lack of funding. Rateau later became a professor at the Ecole des Mines de Paris. He founded a company to develop his turbine inventions. In 1918 he joined the Académie des Sciences and occupied a seat that Henri Fayol had also applied for (Peaucelle *et al.*, 2003, p. 23).

The Ministry of Commerce appointed Henri Fayol by decree to the advisory board for the Conservatoire National des Arts et Métiers (CNAM) on 16 April 1913. The CNAM is a reputed public centre of continuous education in technical fields. Henri Fayol's contributions to the Board concerned the teaching of the organisation of work.

The Director at the CNAM for research into professional work Jules Amar was a specialist in muscular physiology and a supporter of Taylor. In 1916 he studied the re-education of war wounded and worked with the Army on the use of prosthetics. He saw an opportunity to teach scientific management as it applied to the war wounded. The CNAM's advisory board opposed the initiative on 13 December 1916 and Henri

Fayol noted that “the question of the re-education of war wounded was studied in depth in many factories. Before innovating it would be interesting to ask business leaders to gather their results together and discuss them” (Archives du CNAM 2AA/8).

At the time, the teaching of Taylor’s scientific management had been discussed by faculty on several occasions. There was no consensus on the question. It was only in 1929 that Maurice Petsche (1895-1951), a parliamentarian and rapporteur for the CNAM budget imposed the funding of a chair of “scientific management” that was first occupied by an engineer by the name of Louis Danty-Lafrance (1884-1956) (Archives du CNAM 2CC/5). It became the main body in French higher education for the spread of Taylor’s thinking and practice, to be joined by the Institut d’Etudes Supérieures des Techniques de l’Organisation (IESTO) in 1955.

As managing director of Commentry-Fourchambault Henri Fayol was also on the board of the Comité des Forges de France and he belonged to the Comité Central des Houillères de France. His company was a main contributor to the Saint Louis Hospital in Commentry and he was president of their board of directors from 1894 to 1911 (Rougeron, 1987, p. 271).

Henri Fayol was also decorated for his professional activities: Officer of the Ordre des Palmes Académiques in 1886 upon recommendation from various learned societies, Knight in the National Order of the Legion of Honour in 1888 when he was appointed head of Commentry-Fourchambault, and Officer in the Legion of Honour in 1913 for his 25 years as a knight.

Henri Fayol patented two technical inventions. In 1874 he patented four different breathing apparatuses to enter mines invaded by deleterious gases. The constructors were Torrihon, Verdier et Cie in Clermont Ferrand (Fayol, 1918, pp. 34-35). His invention however was not commercially successful (Veyron, 2002, p. 61). In 1879 together with Emile Petit he patented the *friptomètre* for which they were awarded a silver medal in 1888 by the Société d’Encouragement pour l’Industrie Nationale. The *friptomètre* was a machine that measured the efficacy of lubricating oils (Petit and Fayol, 1886; Tresca, 1887). This apparatus resembled a Prony brake and was capable of measuring weak forces.

Henri Fayol was particularly proud of the Delesse prize awarded by the Académie des Sciences in 1893 for his articles on the formation of coal deposits. He had also received awards for his work from various World Fairs organised in Paris at the time: a gold medal in 1878 for his breathing apparatuses, a second gold medal in 1889 and the Grand Prix in 1900. At the time of these awards he was also on the organising committees for these events. In 1898 he was a member of the selection committee for the 1900 World Fair and the organising committee for the Exposition Minière Souterraine in 1900. He was also invited to be a member of the jury of the World Fair in Gand in 1913.

3.3 Henri Fayol’s lifestyle

Henri Fayol always lived close to where he worked. In Commentry, a village of 12,000 souls, he lived in accommodations on the company’s land close to the mines. After his wedding he moved to a house at number 9 Rue du Plaveret that was adjacent to the lands that were excavated to extract the coal. He lived with his wife and two daughters. A man and wife working as cook and coach driver and a younger servant also lived with the Fayols (ADA1 census, 1881).

When he worked in Paris, the company shared offices at the prestigious number 16 place Vendôme. He lived nearby at number 12 from 1888 to 1892. He later moved to number 76 Boulevard Malesherbes where he lived from 1893 to 1898. In 1899 he moved to his final residence on the fourth floor of a new apartment building at number 49 Rue de Bellechasse. He had two Counts, a lawyer, a doctor and a chemist for neighbours. All these addresses are in Paris' bourgeois neighbourhoods.

Henri Fayol was not attached to one place. He followed his work as his father had done previously, living throughout France. As a young engineer his expertise was called upon to fight mine fires in various regions. As Managing Director he visited the company's sites at least once a year. He travelled across France by rail. On 12 September 1888 for example he was in Fourchambault, on the 20th 250 km to the North in Paris to be awarded his Order of the Legion of Honour, and on 21 October he was 250 km to the south in Bourges (AN LH/950/16).

Henri Fayol also shuttled between Paris and his house in Presles, built around 1900 on a large parcel of wooded land. Presles was on the railway line from Paris.

Henri Fayol began earning a high salary when he was named as Director at Commentry-Fourchambault in 1886. He also earned additional revenue from his consulting missions in other coalmines, and in particular when he extinguished mine fires. He bequeathed close to 3,300,000 F on his death (one French franc in 1925 would be worth 0.8 Euros in 2011).

This small fortune included his house in Presles (430,000 F fully furnished), public bonds (410,000 F), shares in the Oberthür printers (390,000 F) and shares in various industrial companies and mining companies in particular (AN DQ7 31176). His wealth grew throughout his 60-year career at an average rate of 55,000 F per year.

Henri Fayol's wife Marie Saulé was not so wealthy. She inherited 140,000 F from her parents and an uncle (ADP DQ7 30770). While their marriage represented a move up the social ladder for Henri Fayol he built his wealth through his work. On the whole his fortune was below that of the upper middle class of the time.

4. Examining Henri Fayol's motivations

The information about Henri Fayol's family confirms that his origins and particularly those of his wife were in the lower middle-class. The revenues he earned using his technical skills and as managing director allowed him to hold a higher social status in the Parisian bourgeoisie. The works of Verney (1925) and Sasaki (1995) are confirmed.

How did André Fayol's lack of professional success influence his son's intellectual ambitions? One explanation may be found in John Stacey Adams' "equity theory" (Adams, 1963). According to equity theory, an individual calculates a "score" of rewards gained for effort expended both for himself and for others. Differences in scores between individuals are perceived as inequities. A comfortable social standing is perceived as inequitable and unjust if the individual works little, is incompetent or did not deserve his position. An individual that earns a low wage will be in an equitable situation if he expends little effort and has a low skill level. One's own perceived score as well as that of others is a source of personal motivation by encouraging greater efforts to obtain higher rewards. If the difference in scores is too large, the system may be perceived as unjust and create dissatisfactions that can lead to a reduction in effort.

This model can be applied to André Fayol. His rewards in terms of salary and career were low given his level of skills. His score was lower than that of his superior officer Emile Auguste Ernest Julia that he accompanied to Turkey. Julia had studied at the Ecole Polytechnique with its selection based on mathematical abilities. While he had little knowledge of the artillery and the fabrication of canons and shells he still had a honourable military career. The rewards/efforts score was very different between the officer and the sergeant. It was inequitable. According to equity theory, “turnover may be one method employees utilize to alleviate perceived inequity” (Carrell and Dittrich, 1978, pp. 204-205). André Fayol often changed jobs because of this perceived inequity.

The son took on his father’s dissatisfaction. This discontent motivated Henri Fayol to follow a different professional trajectory. He worked hard to graduate and to be a successful engineer, manager and geologist. This was however insufficient to satisfy his quest for justice. He wanted to surpass the “*polytechniciens*”. He knew them well as they had been both his teachers at the Ecole des Mines de Saint Etienne, the inspectors appointed by the State to control his mines, and the directors of competing French mines and foundries. The founding of a new theoretical science, a management science, would elevate him to a theretofore unattainable status with a high level of “social rewards” that would reflect his merit and efforts. It could be seen as compensation for his father’s low score.

Equity theory influenced Henri Fayol in so far as he identified with his father. This is a classical concept in psychoanalytic theory that was proposed by Freud as a means to move beyond the Oedipus complex (Freud, 1939). Henri Fayol sought to correct the injustice that he had felt for his father. Founding a management science was a way to do so.

The description of Henri Fayol’s motivations to develop a management theory has little to do with the theory itself. Only a small part of his thinking, namely his view of mathematics and the Army were influenced by experiences in his private life. His criticism of excessive mathematics teaching in engineering and management training reflects his experience with mathematics when he was a student at Saint Etienne. His difficulties in mathematics prevented him from graduating at the head of his class. At the same time he studied accounting, which later became an important part of his doctrine.

A second influence can be found in his opinion about the Army. His father was a non-commissioned officer in the artillery, his sister married a pharmacist whose brother was a military doctor and he was fond of a distant cousin who was a colonel in the engineering corps. His understanding of the Army came through its support functions. He learnt of some of its operating absurdities and in particular those at peacetime.

Nonetheless, the substance of Henri Fayol’s thought came from his professional experience (Reid, 1995; Wren *et al.*, 2002) and his readings (Peaucelle, 2003). We can read Fayol’s work today independently of the motivation that drove him to write it. His thought is based on his management experience that he wanted to theorise.

5. Conclusions and lessons for today’s managers

Our study of Henri Fayol’s private life shows how an engineer climbed the social ladder using his management talents. He looked to further his scientific training by contributing to the research endeavours of his time, in particular in the field of geology.

He also sought to fulfil a social role as a manager and turnaround a flailing enterprise. His originality lay in the way he used these two aspects to generate theory from his management actions.

What motivated Henri Fayol to publish his management theory so late in his career? Henri Fayol's intellectual ambition would not have been financial as he had already had a successful business career and was quite wealthy. It was most probably a reaction to the institutional restrictions on his father's career. His affective proximity to his family made Henri Fayol sensitive to his father's lack of professional recognition during his military and civilian career.

Many of today's managers are as talented as Fayol was. They too could theorise their experiences and contribute to the advancement of management science. Through time, a number of managers have done so. It is interesting for comparative purposes to consider how they undertook their reflective and writing tasks. Alfred Sloan published *My Years with General Motors* (Sloan, 1964). He was aided by two ghost writers, John McDonald and Alfred Chandler in the same way a large number of other personalities have been in their writing tasks. This collective writing process is sometimes visible as in the case of Jack Welch who co-authored with his wife (Welch and Welch, 2005). However, it is not so important who wrote the text as it is that the reporting of facts remain unbiased

We know that Frederick Taylor found inspiration in an unpublished manuscript by Morris Cooke (Wrege *et al.*, 1978) when he wrote *The Principles of Scientific Management* (Taylor, 1911). This was not the case for Henri Fayol who authored his work alone. As an author's intellectual investment increases, so too does the need to understand the necessarily strong motivations that drive him. Motivations can be found in their personality, their childhood or their personal history. For example, Chester Barnard wrote *The Functions of the Executive* (Barnard, 1938) for a series of seminars that he ran at Harvard University. He had accepted to participate in memory of the seminars that he had followed in his youth at the Lowell Institute in Boston (Wolf, 1996).

We hope that more managers feel this need to confront their experience with management theory, confirming or disproving through observation the various intellectual constructions that describe business and management. They too can use scientific method to construct new theories. Managers have their place in management research so long as their contributions are original and their methods are rigorous.

References

- Archives du Département de l'Allier (ADAl) (n.d.), Civil registry.
- Adams, J.S. (1963), "Toward an understanding of inequity", *Journal of Abnormal and Social Psychology*, Vol. 67, pp. 422-36.
- Annuaire du CCHF (1896), *Annuaire du Comité Central des Houillères de France*, p. 210.
- Barnard, C.I. (1938), *The Functions of the Executive*, Harvard University Press.
- Bottin (1868-1885), *Annuaire-Almanach du commerce, de l'industrie, de la magistrature et de l'administration ou almanach des 500000 adresses de Paris, des départements et des pays étrangers, Didot-Bottin, Paris* (business directory).

- Carrell, M.R. and Dittrich, J.E. (1978), "Equity theory: the recent literature, methodological considerations, and new directions", *The Academy of Management Review*, Vol. 3 No. 2, pp. 202-10.
- de Rouville, P. (1888), La société géologique de France à Commentry, *Revue scientifique du Bourbonnais et du Centre de la France*, October, 1-15.
- Fayol, H. (1918), *Notice sur les travaux scientifiques et techniques de M. Henri Fayol*, Gauthier-Villars, Paris.
- Freud, S. (1939), *Moses and Monotheism*, The Hogarth Press and the Institute of Psycho-analysis, London.
- Garçon, A.F. (2004), *Entre l'Etat et l'usine: l'Ecole des Mines de Saint Etienne au XIXe siècle*, Presses universitaires, Rennes.
- Le Brun, E. (1913), *Une petite ville bourbonnaise, Le Veurdre*, H. & E. Champion, Paris.
- Mémoires ICF (1869), *Mémoires et compte rendu des travaux de la Société des Ingénieurs Civils de France*, Vol. 23, p. 22.
- Mémoires ICF (1898), *Mémoires et compte rendu des travaux de la Société des Ingénieurs Civils de France*, Vol. 71, 3e partie, p. 40.
- Mortal, P. (2007), *Les armuriers de l'Etat*, Presses universitaires du septentrion, Villeneuve d'Ascq.
- Paixhans, H. (1822), *Nouvelle force maritime et application de cette force la quelques parties du service de l'armée de terre*, Bachelier, Paris.
- Peaucelle, J.L. (2003), "Saint Simon, aux origines de la pensée de Henri Fayol", *Entreprise et Histoire*, No. 34, pp. 68-83.
- Peaucelle, J.L., Montès, A., Beaudoin, B., Morales Gutierrez, R. and Smith, S. (2003), *Henri Fayol inventeur des outils de gestion*, Economica, Paris.
- Petit, E. and Fayol, H. (1886), "Frictomètre et ressort hydraulique de MM. Émile Petit et Henry Fayol", *Bulletin de la Société d'Encouragement pour l'Industrie Nationale, 85th year*, Vol. 4 No. 1, pp. 462-6.
- Pryor, M.G. and Taneja, S. (2010), "Henri Fayol, practitioner and theoretician – revered and reviled", *Journal of Management History*, Vol. 16 No. 4, pp. 489-503.
- Reid, D. (1995), "Fayol from experience to theory", *Journal of Management History*, Vol. 1 No. 3, pp. 21-36.
- Rougeron, G. (1987), *Histoire de Commentry et des Commentryens*, Cahiers Bourbonnais, Charroux-d'Allier.
- Sasaki, T. (1995), "Henri Fayol's family relationships", *Journal of Management History*, Vol. 1 No. 3, pp. 13-20.
- Sloan, A.P. (1964), *My years with General Motors*, Doubleday, New York, NY.
- Taylor, F.W. (1911), *The Principles of Scientific Management*, Harper, New York, NY.
- Termier, P. (1925), Adresse de M. Pierre Termier, in Verney, H., *Le fondateur de la doctrine administrative, Henri Fayol*, Dunod, Paris, pp. 63-65.
- Tresca, H. (1887), "Frictomètre de MM. Petit et Fayol", *Bulletin de la Société d'Encouragement pour l'Industrie Nationale. 86th year*, 4e série, tome 2, pp. 549-554.
- Verney, H. (1925), *Un grand ingénieur Henri Fayol*, Saint Etienne.
- Veyron, T. (2002), Les appareils respiratoires dans les houillères, *Entretiens*, Vol. 2, Institut des études régionales et du patrimoine, Université de Saint Etienne, pp. 59-70.

- Villemain, A.-F. (1843), *Rapport au Roi sur l'instruction secondaire*, Imprimerie royale, Paris.
- Welch, J. and Welch, S. (2005), *Winning*, HarperBusiness, New York, NY.
- Wolf, W.B. (1996), "Reflections on the history of management thought", *Journal of Management History*, Vol. 2 No. 2, pp. 4-10.
- Wrege, C., D. . and Stotka, A.M. (1978), "Cooke creates a classic: the story behind F.W. Taylor's principles of scientific management", *The Academy of Management Review*, Vol. 3 No. 4, pp. 736-49.
- Wren, D.A., Bedeian, A.G. and Breeze, J.D. (2002), "The foundations of Henri Fayol's administrative theory", *Management Decision*, Vol. 40 No. 9, pp. 906-18.

Further reading

- Annuaire ENSMSE (n.d.), Annuaire de la Société amicale de secours des anciens élèves de l'Ecole des mineurs de Saint-Etienne.
- Archives du CNAM (n.d.), 2AA/8 conseil de perfectionnement, 2CC/5 conseil d'administration.
- Archives du Département du Cher (ADC) (n.d.), Civil registry.
- Archives du Département de la Loire (ADL) (n.d.), Civil registry, 9M 216 archives concerning the Ecole des Mines.
- Archives du Département de l'Yonne (ADY) (n.d.), Civil registry.
- Archives du Département de Paris (ADP) (1926), Civil registry, DQ7 31176 Henri Fayol's inheritance 18 May 1926, ADP DQ7 30770 Céleste Moquet, maiden name Saulé, inheritance 1906.
- Archives du ministère des affaires Etrangères (AMAE) (n.d.), P00662 fol 3, 36, 94, 109 et 233, P00663 fol 32 diplomatic archives from Constantinople.
- Archives ENSMSE de l'école nationale supérieure des mines de Saint Etienne (n.d.), Scholarship files.
- Archives Nationales (AN) (n.d.), ANLH/950/16 Henri Fayol's file of Legion of Honour.
- Centre d'Histoire de l'Europe du Vingtième Siècle (CHEVS) (n.d.), Fondation des Sciences Politiques 5bis DR2.
- du Boys, A. (1842), *Album du Vivarais*, Prudhomme, Grenoble.
- Fayol, H. (1916), *Administration Industrielle et Générale*, Dunod, Paris.
- Généalogie Moquet (GM) (n.d.), available at: <http://gw2.geneanet.org/index.php3?b=jomave&lang=fr;pz=johann+claud+jean+pierre+andre;nz=straub;ocz=0;p=marie+celeste+adelaide;n=saule> (accessed May 2011).
- Mémoires ICF (1903), *Mémoires et compte rendu des travaux de la Société des Ingénieurs Civils de France*, Vol. 80, 1er semestre, p. 270.
- Roche, A. (Abbé) (1896), *Mines et fonderies de La Voulte*, imprimerie des sourds-muets, Saint Etienne.
- Santoy, C. (1985), *Pratique de la graphologie*, Bordas fils, Paris.
- Service Historique de la Défense (SHD) (1826), French military archives, 36YC872 rôle de la 1ère compagnie, 4W406 Fabrication des projectiles creux par le capitaine Rossi, 20 June.

About the authors

Jean-Louis Peaucelle was a Professor in Management at the University of Reunion Island. He is a qualified civil engineer and holds PhDs in Sociology and in Computer Science. His publications

are in the areas of management and economic history, information systems and work organisation. His articles have appeared in such journals as *The European Journal of the History of Economic Thought*, *History of Economic Ideas*, *Journal of Organizational Change Management*, *Innovations*, *Entreprise et Histoire*, *Gérer et Comprendre*, *Systemes d'Information et Management* and *Revue Française de Gestion*. He has written numerous textbooks and chapters including one about Henri Fayol's management tools and another about Adam Smith's pin-making example.

Cameron Guthrie is an Associate Professor in Management at the Université de Toulouse – Toulouse Business School. He holds a PhD in Management Science from Panthéon-Sorbonne University. His research interests are in the areas of management and economic history, creativity and invention, and management learning and education. His two latest publications include an article in the *History of Economic Ideas* about Adam Smith's pin-making example and a chapter in the *Oxford Handbook of Management Thinkers* on Henri Fayol. Cameron Guthrie is the corresponding author and can be contacted at: c.guthrie@esc-toulouse.fr

To purchase reprints of this article please e-mail: reprints@emeraldinsight.com
Or visit our web site for further details: www.emeraldinsight.com/reprints