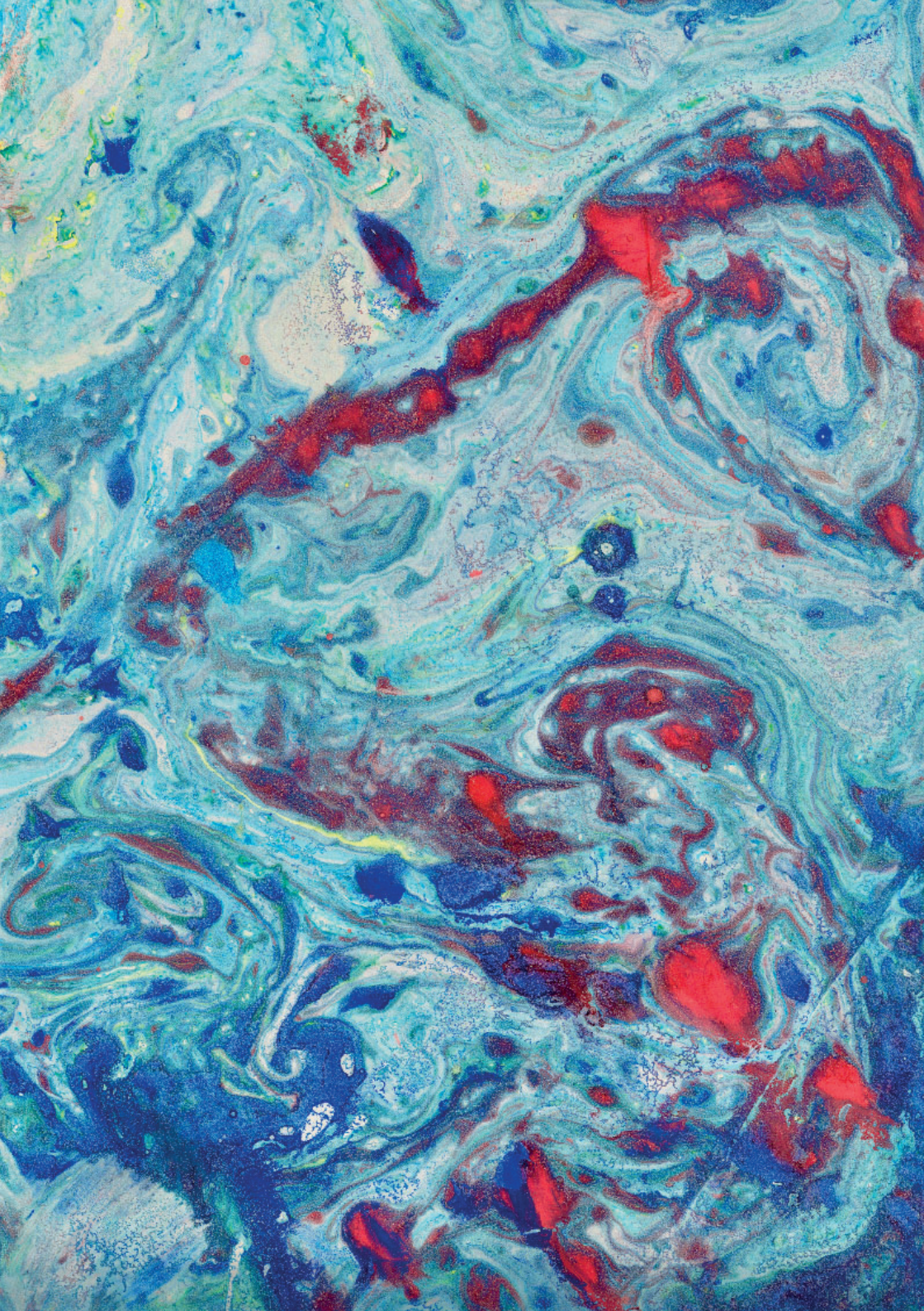
# BRITISH *presence in* MÁLAGA *in the 19th century*

# *Index*



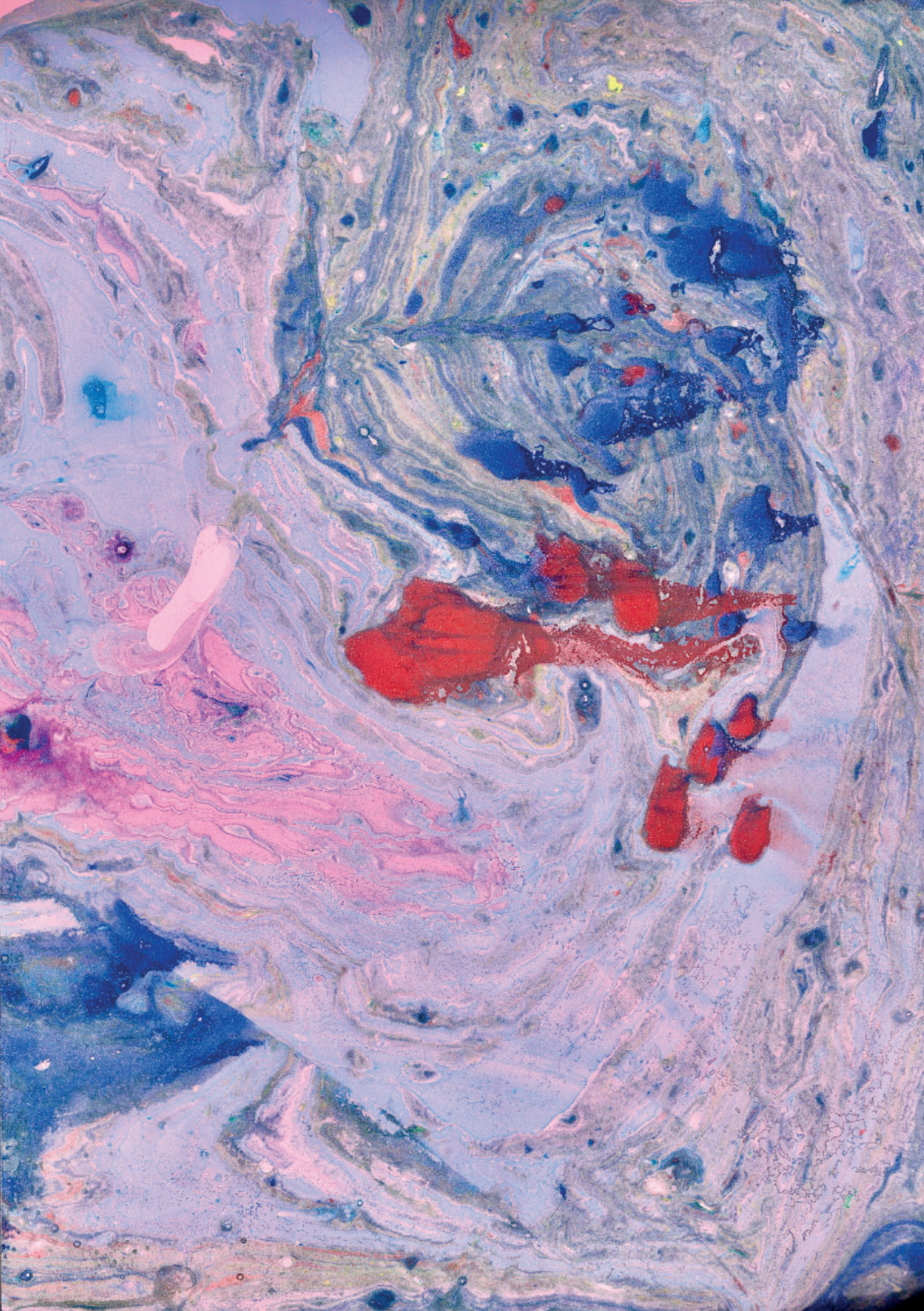
# *Prologue*

At the beginning of this academic year, the team of bilingual teachers at our school decided to carry out an interdisciplinary project that had a common link and that we could work on from our subjects with the collaboration of the conversation assistants. This is how it was decided to come up with the topic we are dealing with in this magazine: British presence in Malaga in the 19th century.

Thanks to this work, our students have learnt why the oldest Protestant cemetery in Spain was established here, relevant British people who lived in our city such as William Mark, Robert Boyd, the English composer Gustav Holst and the importance of Jorge Loring Oyarzábal, creator of the botanical garden of La Concepción and a great businessman. They have also investigated the importance of industry in Malaga at the time and how our city was protected from British pirates, among other things.

I would like to thank the students for their work, which has been possible thanks to the support, guidance and collaboration of their teachers and the assistants who have accompanied us during this course, Laurie and Jenn. I would also like to thank the Art department for the layout and design of this magazine.

*Laura Marti*
*Bilingual coordinator*




ENGLISH DEPARTMENT

## *The English Cemetery.*

The English cemetery was founded in 1830 and it was created because English people couldn't be buried because they were Anglican. They were buried on the beach vertically facing the sea at night.

William Mark being consul, didn't like how they were buried, he thought that he had to act and looked for a piece of land for their patriots. That´s why Malaga's authorities gave him one place in Malaga.

## *William Mark*

He was born in England in a poor family, but became consul in Málaga in 1810. He died 13th January 1849.

***4ºESO B***
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*Laura Marti*

## *The English Cemetery.*

### *Why is there an English cemetery in Málaga?*

Before the English Cemetery was created in 1831, the death of a non-Roman Catholic in Spain was problematic, as no provision was made for their burial. All cemeteries were consecrated according to the rites of the Catholic faith. In Malaga, non-Catholics could only be buried at night on the beach and in an upright position, and left at the mercy of the waves and of prowling dogs.

## *Robert Boyd*

Robert Boyd was born on 7 December 1805 in Londonderry, Ireland.

In 1824, at the age of nineteen, Robert decided to enlist in the army, inspired by his strong sense of justice and freedom.

Robert Boyd, with an adventurous spirit, decided to join the plans of the Spanish liberals and after the development of the events that the reader will learn about in the novel "The English Cemetery of Gibralfaro", he fell into a trap organised by the government that ended with the execution of all the conspirators.

Robert Boyd was shot dead on the beach of San Andrés in Málaga on 11 December 1831. His body was buried in the Protestant cemetery in Malaga by the British Consul William Mark.

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## *The English Cemetery.*

***Robert Boyd***

The English Cemetery was created with the purpose to have a place to bury people who were protestants or not belonging to the Catholic religion, mainly immigrants. Málaga in those times was such a commercial city with many kinds of commercial traffic with other countries, so lots of people came here with the intention of creating their own business. About that time, people who weren't catholic weren't allowed to be buried in the catholic cemeteries. So on the 11th of April in 1834, the British consul, William Mark, asked the city government for a place to bury his friends and mates. And that's how the English Cemetery was created.

In this cemetery important people are buried, such as lieutenant Robert Boyd.

He was born on the 7th of December in 1805, in Ireland;

He joined the British army in 1824 and was moved up to lieutenant in 1826. In 1830 he associated to General José María Torrijos' conspiration to overthrow the absolutist regime of King Fernando VII. However, he fell into a trap by the government and was executed with his mates conspirers on San Andrés beach (Málaga) the 11th of December in 1831.

In addition, Robert Boyd's history is narrated in the novel named "El cementerio Inglés de Gibralfaro" (The English Cemetery of Gibralfaro).

***4ºESO B***
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*Laura Marti*

## *The English Cemetery.*

**Why is there an English Cemetery in Málaga?**

Because in the past, the English people had a different religion than Spanish people so the English people were buried in the beach but MR. William Mark founded the English Cemetery in Málaga.

**Who was Robert Boyd?**

Robert Boyd, was the 4th Lord Boyd (c. 1805 – 1831). He was a Scottish nobleman who supported some factions attempting to dominate Scottish politics during the reign of King James V and the minority of Mary, Queen of Scots.

**Why was he in Málaga ?**

In the year 1830, his cousin John Sterling had organized a group of young intellectuals called "The Cambridge Apostles" who were dedicated to collaborating with the Spanish general José María Torrijos, exiled in London, in his conspiracy to overthrow the monarch's absolutist regime. Ferdinand VII

**when did he die?**

He fell into a trap organized by the government that ended with the execution of all the conspirators.

Robert Boyd was assassinated by a shot on the beach of San Andrés in Málaga on December 11, 1831. His body was buried in the Protestant cemetery of Málaga by the British consul William Mark and his son William Penrose.

***4ºESO B***
***Students:***
*Ali Hamam Hichami*
*Diego Emanuel Diaz Virguez*
***Teacher:***
*Rebeca Jiménez*

## *The English Cemetery.*

The English cemetery in Málaga was built in 1831 because non-catholic people couldn't be in Catholic cemeteries.

### *Joseph William Noble*

He was the founder of Noble hospital . He was a doctor and politician and was born in England on 13 of March in 1797.

He died of an attack of cólera in Málaga in 1861 when he was here to get better from his health. After his death, his children Ellen, Ann and Margaret, built the Noble Hospital in Málaga to look after the neighbours and the sailors of different nationalities who arrived at the port of Málaga according to the will of his father.

The hospital was built between the dates 1866 -1870.

Joseph was in Málaga in a journey to restore his health.

***4ºESO B***
***Students:***
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*Laura Marti*

## *The English Cemetery.*

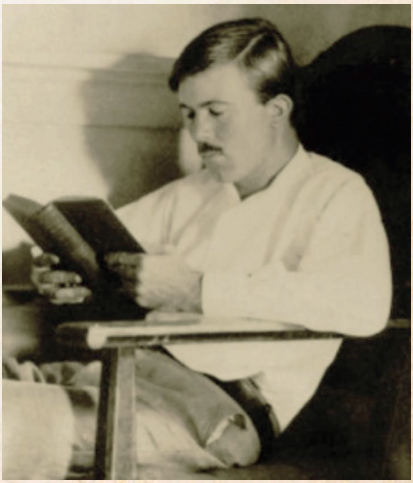
The English Cemetery in Málaga, also called the Cemetery of St. George, is an old graveyard in Málaga, Spain. It was created in 1831 for foreign people, especially British people, who couldn't be buried in Catholic cemeteries. The cemetery has different styles of graves and memorials, like neoclassical and Victorian designs.

## *Gerald Brenan*

Gerald Brenan (1894-1987) was a British writer who wrote about Spanish history, culture, and literature. Brenan was born in Malta and moved to Spain in the 1920s. He lived in different parts of Spain, but he liked the Alpujarras area in Andalusia the most, and it inspired his most famous book, "South from Granada"

Brenan also wrote about the Spanish Civil War and his own experiences in Spain in his memoir, "The Face of Spain". Besides writing, Brenan was really good with languages and knew Spanish, Catalan, and Arabic. He got many awards for his work on Spanish culture, including the Grand Cross of Alfonso X the Wise. Brenan wrote and translated books until he died at the age of 93 in 1987.

Gerald Brenan is buried in the English Cemetery of Malaga because he spent much of his life in the city and had a deep connection to the local community, especially the English-speaking residents. Brenan was a well-respected figure in Malaga and was active in cultural and literary circles there. After his death in 1987, his wife and friends arranged for his burial in the English Cemetery as a way to honor his legacy and connection to the city. His grave can be visited by the public, and it is a popular spot for those interested in Brenan's life and work



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## *The English Cemetery.*

The English Cemetery of Malaga was the first Protestant cemetery in Spain, built in 1831, being the oldest in the peninsula. Who professed a creed other than the Catholic one could not be buried in catholic cemeteries. When they were denied burial in sacred soil, burials were held on the beach during the night.This situation lasted until 1824, when William Mark was appointed consul of the British Empire in Malaga.

## *GAMEL WOOLSEY'S LIFE*

Gamel was a writer, poet and translator. She was born in the United States and spent much of her life in England and Spain (more specifically in Malaga). Although she didn't publish many works during her lifetime, after her death other works came to light. In Malaga she is mainly known for her work "Málaga en llamas", where she narrates the horrors of the Spanish Civil War. Precisely from that war she fled in a battleship with her husband Gerald Brenan in the year 36.They are buried in the English Cemetery.

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*Malak Moumni*
*Bárbara Istán*
***Teacher:***
*Laura Marti*

## *The English Cemetery.*
### JORGE GUILLÉN

Jorge Guillén Álvarez was a Spanish poet, a member of the Generation of '27, a university teacher, a scholar and a literary critic. He was born in Valladolid but he moved out and he lived half of his life in Málaga, where he died, in 1984. In 1983, he was named Hijo Predilecto de Andalucía and nominated for the Nobel Prize in Literature four times. He studied in Madrid, Granada, París and Murcia. In 1976, he was awarded the Miguel de Cervantes Prize, the most prestigious prize for Spanish-language writers, and in 1977 the Premio Internacional Alfonso Reyes. In his lifetime he always tried to exalt the poets and people involved in the science world.

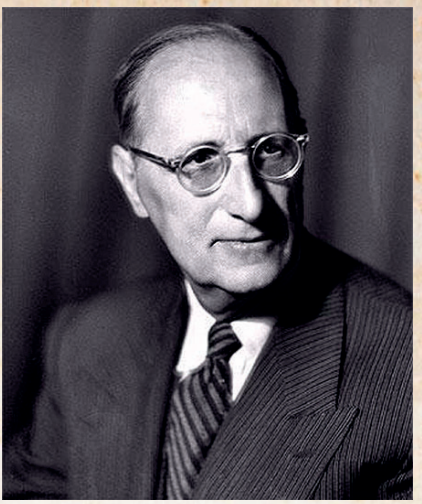
Who was this person? Robert Boyd

He wrote a lot of poems, the most famous is Cantico and in that poem we can see many critics of the society of that time.

When he came to Málaga he saw the cemetery and that cemetery reminded him of the poem "Le Cimetière Marin", which he translated years ago and after that he decided to be buried in that cemetery.

-He came to visit his teacher and good friend, Antonio A. Gómez Yebra. Days after, Málaga's council decided to make the poet the "adoptive son" of the city just before the University of Málaga gave him a doctorate.

The cemetery is located very close to where he lived and the reason could be simply because the cemetery pleased Jorge Guillén, we don't know the exact reason.



***4ºESO A***
***Students:***
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*Ana Belén Siles España,*
*Rim Elsayed and*
*Mohamed Frizi.*
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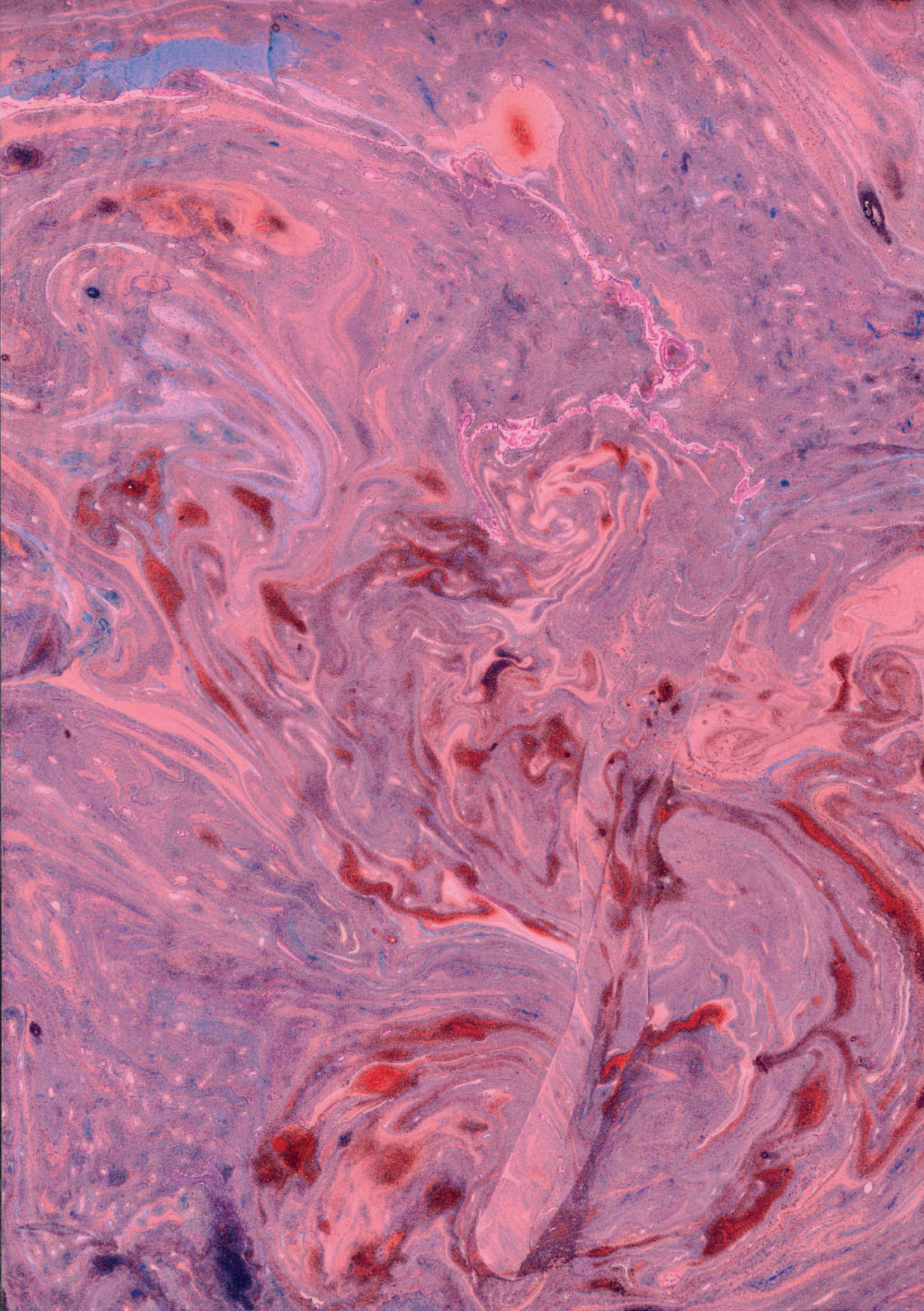


# HISTORY DEPARTMENT

## *Haraszthy's travels through the mountains of Málaga*

Agoston Haraszthy (1812-1869) is revered as a pioneer of Californian viticulture. In 1840, he emigrated to America and later brought his family to join him. In Wisconsin, he planted the state's first vineyard and founded a city that now bears his name, Sauk City. In 1857, he purchased 230 acres of land near the town of Sonoma and established Buena Vista Winery, which still exists today. With 165 different grape varieties imported from Europe, he embarked on large-scale grape cultivation. During his journey through Europe to learn the secrets of viticulture, he arrived in Málaga with the purpose of meticulously documenting the renowned production of Moscatel raisins. Subsequently, he applied Malaga's methods in California, initiating the production of the well-known Californian raisins. His travel notebook has provided us with captivating descriptions of the Malagan landscape.

My pleasure in contemplating this scene was in no way diminished by the thought that my journey in the stagecoach would finally come to an end. Descending from the mountain, we passed several raisin cellars. They are very numerous around Málaga. Soon we arrived in the city and headed to the Hotel Alameda, which turned out to be excellent.

On September 27, in the morning, we rented three horses, two for ourselves and one for our guide. Our steeds turned out to be of the Andalusian breed, very good. We went to the vine plantation of Don Luis Arra de Breka. This vineyard covers an area of 200 fanegas and produces 5000 boxes of raisins, 15,000 arobas of Málaga wine, and 300 arobas of vinegar. One box of raisins weighs twenty-five American pounds, and one barrel weighs one hundred pounds. An aroba contains twenty-two bottles of wine, and a fanega of land contains fifteen hundred vines. These statistics were provided by the overseer, who kindly gave us all the information we desired. The establishment employs sixty men to select, dry, and pack the raisins. The drying areas consist of an elevated surface with a forty-five-degree inclination, measuring sixty feet in length and twelve feet in width. When a natural elevation cannot be found, it is built out of bricks.

The drying areas are separated from each other by bricks embedded in the ground. These bricks are approximately eighteen inches long, one and a half inches thick, and six inches wide. The floor is a clay soil naturally or artificially covered with small loose pebbles. It somewhat resembles a threshing floor but is not as hard. When the grapes are ripe, they are brought and placed on these drying areas, which are always built facing the noon sun to receive the maximum possible heat. They are inclined at a forty-five-degree angle to achieve this."

***1ºESO D***
***Teacher:***
*Álvaro Amaya*

## *THE BRITISH PIRATES IN MÁLAGA*

We are going to talk about San Lorenzo Tower, which has protected Málaga against British pirates.

The metro works in Alameda have exposed archaeological findings that correspond with the called fort or castle of San Lorenzo.

The Castle of San Lorenzo was a construction of the Modern Age, ordered to be built by King Carlos II to defend the city of Malaga against the attacks of English pirates.

It was Carlos II who sent the prestigious engineer Hercules Torelli to Malaga. The French navy had just bombarded the port of Malaga.

The purpose was to reinforce the walls, protect the urban areas threatened by the floods of the Guadalmedina and build some forts. The engineer drew up plans and projected buildings.

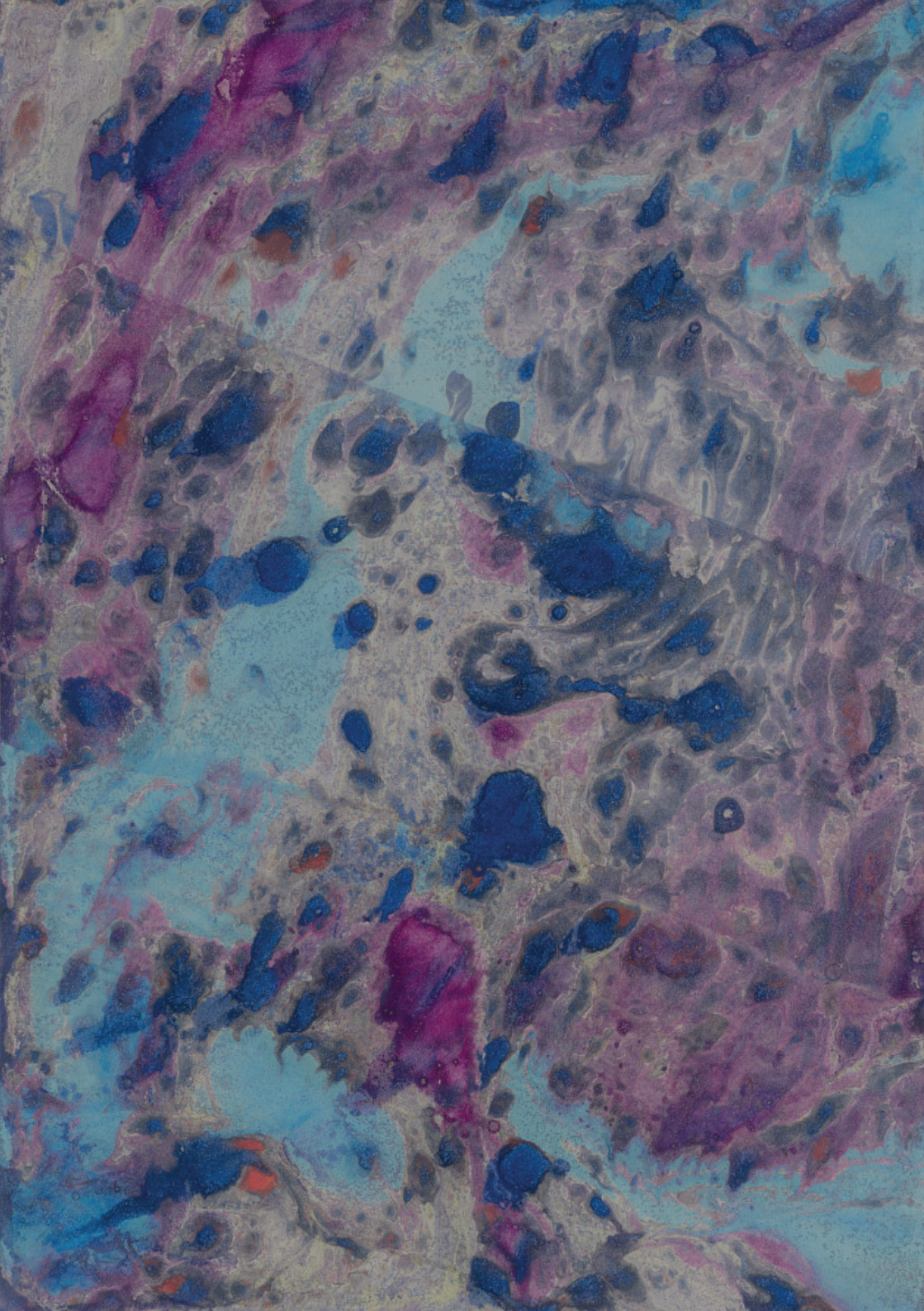
The engineer drew up plans and projected buildings, but due to lack of funds, only the castle of San Lorenzo was built.

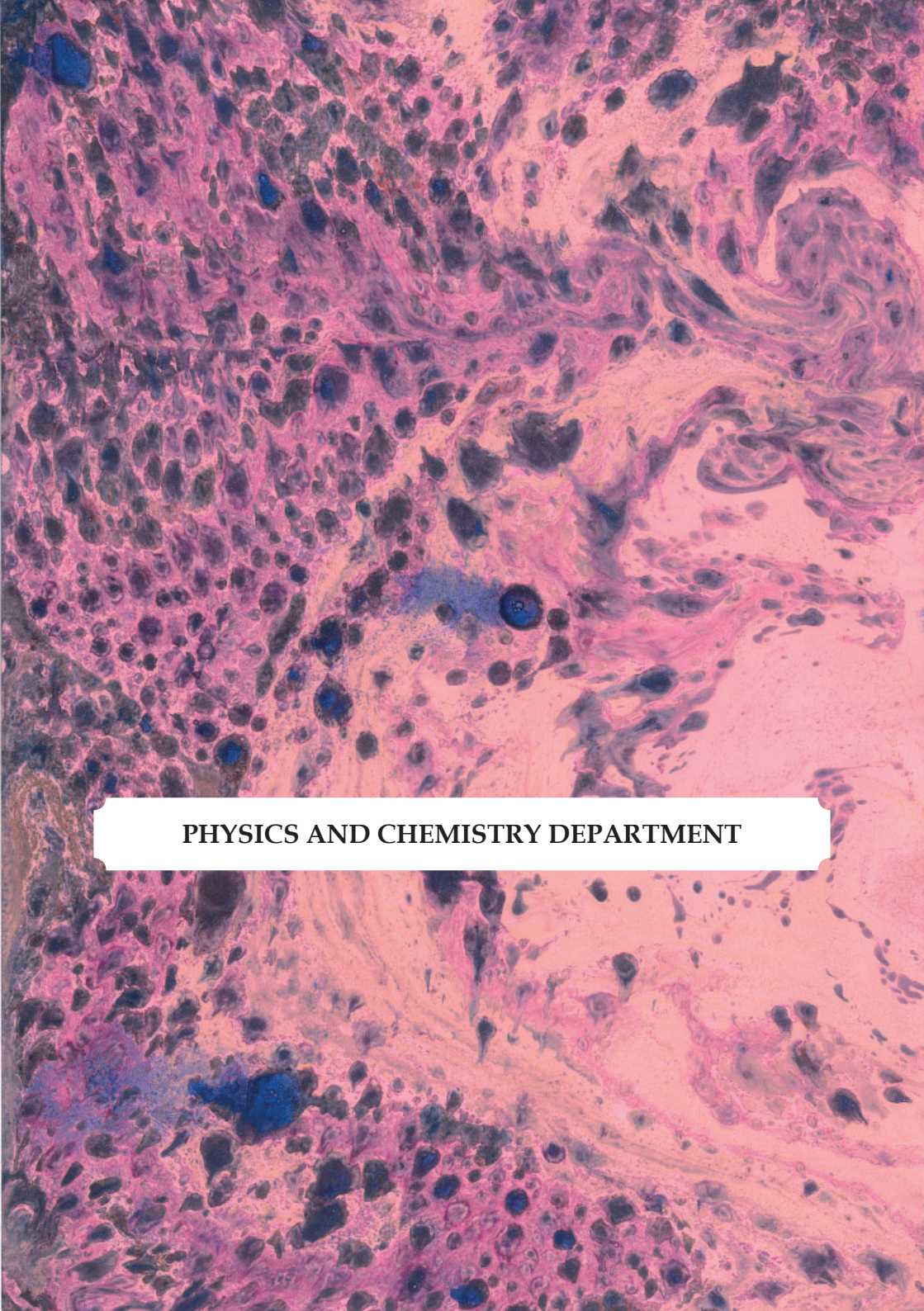
The construction of the castle was completed in December 1701. It had a simple and irregular plan, to adapt to the terrain. Although the construction of an arms room was planned, it never materialized. The location of the castle, on the very shore of the beach, meant that foundation works were periodically necessary due to the damage caused by storms. The advance of the coast took it away from the water line, so it lost its defensive utility.

Jorge Próspero de Verboom, a Spanish military engineer of Flemish origin, captain general and founder of the Royal Corps of Engineers, affirmed the impossibility of protecting the city on the land side due to the existence of houses, churches and entire neighborhoods attached to the walls. This same author describes the state of the fortification in 1722 sent by the Marqués de Salazar. Already at this time, the walls were very deteriorated and it was considered as only recoverable those of Gibralfaro and those of the Alcazaba. These opinions, together with the need for new urban land, led to the demolition, first of all, of the earth wall, where from 1728 the houses that make up the streets of Carretería and Álamos would be built.

The southern wall extended its permanence a little more because it was part of the defensive complex set up around the port, its progressive ruin together with the expansion of the cathedral, the construction of the customs office, the layout of the Alameda and the increase in traffic in the port would lead to a process of opening towards the sea, marked by the demolition of the southern fence.

**2ºESO C**
*Javier Olmo Márquez*
*Andrea Vera Ferreira*
***Teacher:***
*Mª Paloma Enríquez*





# PHYSICS AND CHEMISTRY DEPARTMENT

## *Soap factory in Málaga*

If we were to ask which were the pioneering territories in the development of the industry in Spain, almost all of them would mention Catalonia or the Basque Country and very few would even think of taking Andalusia into account.

However, what the data and historical reality tell us is quite the opposite. Andalusia was for a good part of the 19th century, when modern industry began to develop in our country, the second most industrialized region in Spain, competing with Catalonia and surpassing the Basque Country in many cases.

Correctly, one of the greatest figures of industry and commerce in Malaga during the second half of the 19th century was Jorge Enrique Loring Oyarzabal [1822-1900], a civil, canal and port engineer from Harvard University. He was the third of seven children born to George Loring James, of Massachusetts, and Maria del Rosario Oyarzabal.

*Old soap factory in Malaga*

He introduced, together with Larios and Heredia, the steam engine, the railway and the Banco de Málaga. Other sectors stand out: wine, sugar and steel. It is worth noting that we focus within the chemical industry of soap and artificial soda.

Soap manufacturing in Malaga at the end of the 19th century was very important, with up to 17 factories operating in the city in 1871. They work with natural soda made from barilla from Almeria and abundant vegetable oils were available.

*Barilla of Almeria*

The barilla ash, with his big load of oxalic acid (HOOC-COOH), it was the secret of the soap pyramid. Sodium and potassium made the miracle. To extract the soap it proceeded to the chemicals calls deesterification of fatty acid. Barilla plus oil is equal soap.

For the soap's elaboration there are the next steps:

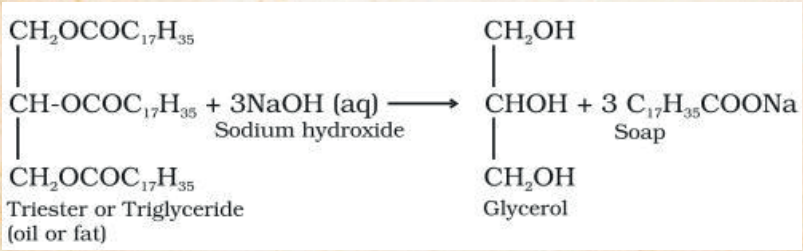
1. Saponification. The alkali is dosed over the fats dissolved in water, a concentration between the 22% and the 24%. Above this proportion lumps form and under it's form a gamous mass. The reaction, that takes half an hour, it held in hot and a continuous agitation. You have to avoid the foaming (with out hot if it is neccessary) and if it get harsh you add some water.

2. Salty. Upper phase contain soap and can contain oil and alkali, they must be spelled. For that you add sodium chloride (NaCl 25%). This favor that the grain is compacted and, also increase the difference of densities between the phases. A quantity of 10 times more brine than initial fat is used and shakes strongly. The aqueous phase goes to the bottom and is discared. You let rest all night.

The rest of the dense phase is separate.

3. Washed. The soap is washed with more brine, shakes and separate to relase the phases as far as possible.

4. Molding. The last thing you give shape by cutting or molding and allowed to dry.




*Chemical reaction of soap production*

***3ºESO A-B***
***Teacher:***
*Beatriz Mérida*

## *Loring. Chemical industry*

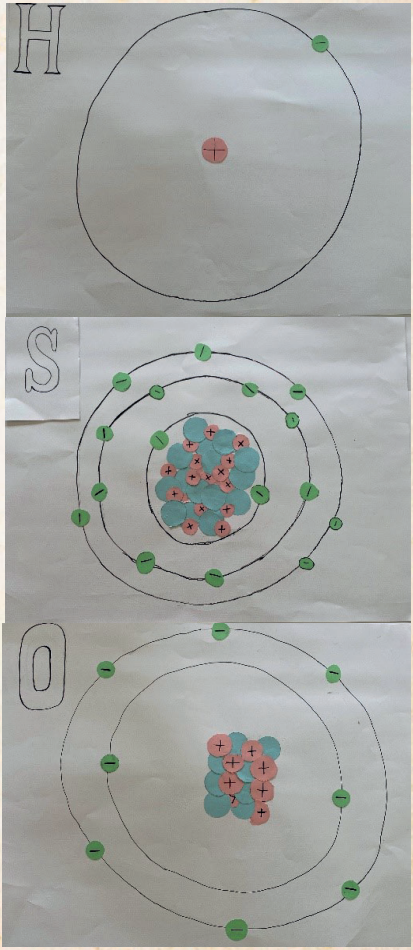
Malaga had great importance in the first industrialization in Andalucía and in Spain. After one quick rise from the middle of the 1830s, the 1850s Málaga is listed as the industrial growth would reach its maximum value in the early 1860s.

The industrial expansion of Málaga is largely due to a group of families whose surnames were Heredia, Larios and Loring.

As it´s been said, the importance of the Loring family in the history of malaga is comparable to that of the Heredia and Larios families, with shown they forged economic ties. Achievements such as the bank of Málaga, the civil hospital and the Málaga-Córdoba railway, were possible, thanks in large part to the tenecity of Jorge Loring Oyarzábal, who 1856 was appointed as Marquis of casa Loring by Isabel II for the important donations that he performed during a terrible epidemic of morbid cholera.

In Malaga the chemical industry arose with the instalation of a big plant together with the ironworks of the Constancia. Their production was supposed to have around 17% of the sulfuric acid mad in Spain in 1860.

The sulfuric acid is a molecule that consist of two atoms of hydrogen, an atom of sulfur and four atomos of oxygen:



When we use it in the laboratory, we can see the possible risks. The sulfuric acid is corrosive and provokes irritation when inhaled.



To obtain sulfuric acid, $H_2SO_4$, we need $SO_2$, $O_2$ and $H_2O$.

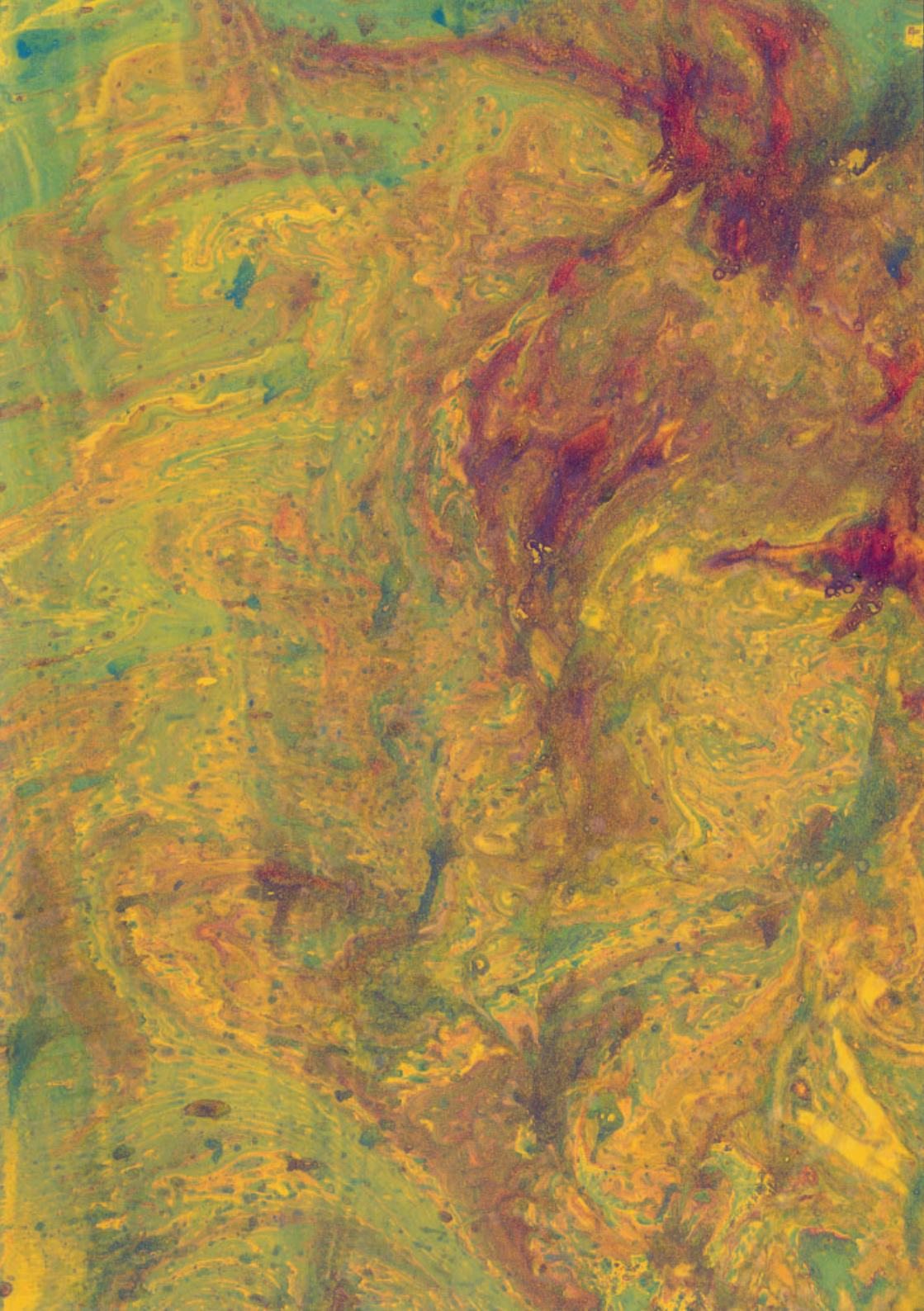
First, we make a reaction with $SO_2$ and $O_2$. From this reaction, we will produce $SO_3$:

$$SO_2 + O_2 \longrightarrow SO_3$$

Finally, we add water $H_2O$ to the $SO_3$ obtained previously:

$$SO_3 + H_2O \longrightarrow H_2SO_4$$

***2ºESO C-D***
***Teacher:***
*Andrés Jiménez*




TECHNOLOGY DEPARTMENT

## *19 th Century Steel industry in Málaga*

The Industrial Revolution consists of a series of technological, social and economic transformations that began in England in the second half of the eighteenth century. During this time, several industries had a great development.

The Industrial Revolution originated in England due to the availability of raw materials such as coal. In addition, there were other economic and social factors.

*"The Industrial Revolution"*

**Importance of the Industry of Málaga in Spain**

The industry of Malaga was a pioneer in the introduction of steam machinery and other advanced technologies of the first Industrial Revolution, such as blast furnaces. Both in Marbella and in the capital, factories dedicated to refining metallurgical products were founded in the 1830s. It is estimated that 72% of all Spanish iron and steel was made in Malaga.

*"Factories in Málaga in the eighteenth century"*

**Manufacturing process of ferrous metals. Import of coal from England**

Iron ore is inserted in the blast furnace, along with coking coal and limestone. The iron ore makes up 60% of the total and has previously been separated from the gangue. The coal, 30% of the mixture, provides the heat to melt the iron.

The blast furnace produces iron, the product from which ferrous metals are made. Iron contains a large amount of carbon that has to be refined. To obtain steel, it is necessary to use a converter furnace.

The blast furnaces in Malaga used coal that was imported, often from England.

## Manuel Agustín Heredia

Manuel Agustín Heredia (1786-1846), businessman and industrialist, was one of the first and most important promoters of the Industrial Revolution in Spain.

He was born in La Rioja. He moved to Malaga at the age of 15. He married Isabel Livermore, daughter of the English merchant Tomas Livermore. He Created the steel factories of "la Concepción" and "la Constancia" in the province of Malaga.

**La Constancia y La Concepción.**

La Concepcion was created in 1826 in Marbella by several businessmen including Manuel Agustin Heredia. It was located in Marbella. This factory followed the model of English steel factory.

He founded the "Constancia" in 1833, a factory in Malaga with English machinery and workers

*"Blast furmace"*

***2ºESO A-B***

***Teacher:***
*Santiago Rodríguez*

## *Circular transmision mechanisms.*

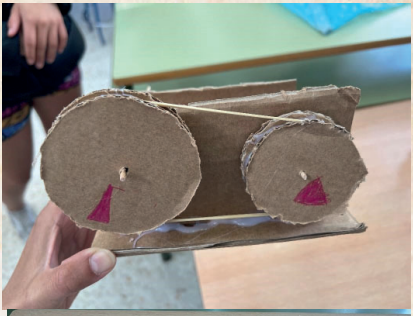
### *Friction Wheels*

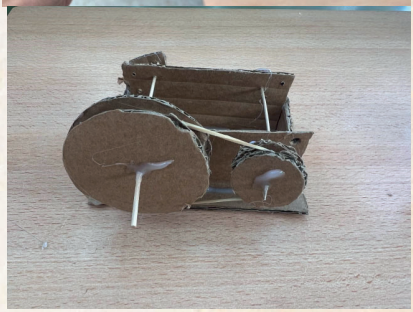
Driver wheel (rueda o polea motriz) it is the wheel moved directly by a motor or engine.
Driven wheel (rueda conducida) it is the one to which the motion is transmitted.

The motion to the driven wheel is transmitted by means of friction existing in the contact of bothwheels. Consequently, both wheels rotate in opposite direction.

### *Belts and Pulleys systems*

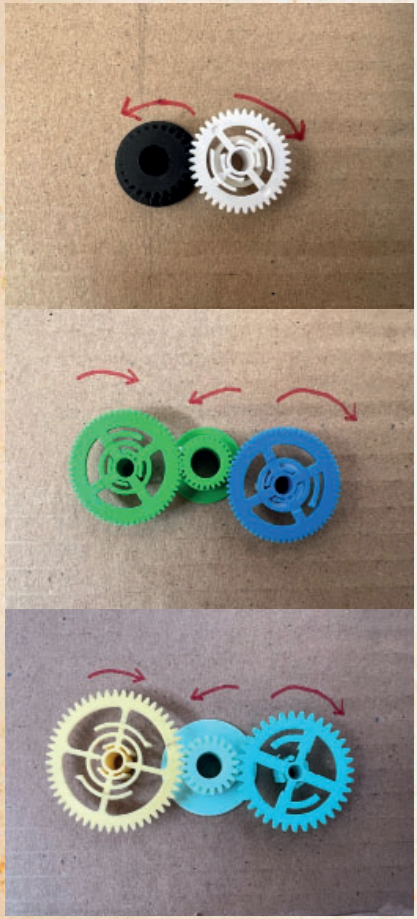
It is used to transmit motion between two parallel axles.
A belt passes around two pulleys wheels.
Then when the driver pulley moves, it moves the belt and the belt moves the driven pulley. Both pulleys wheels rotate in the same direction.
The transmission speed ratio is the same as in the friction wheels.



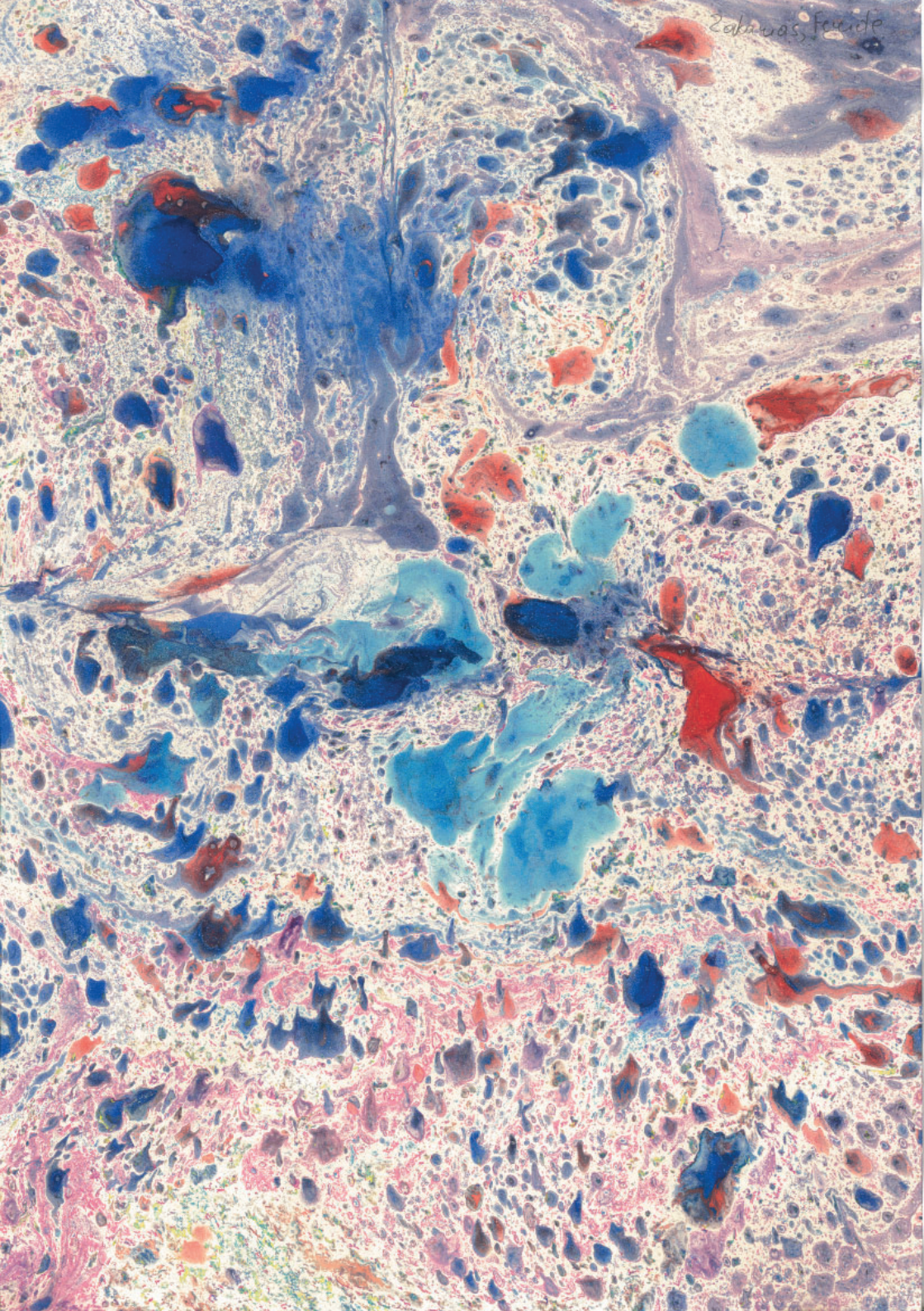


## *Gears – Types of gears*

A gear is a mechanism consisting of two wheels with teeth. Just like friction wheels, the two wheels rotate in opposite directions. If we want the input Wheel to rotate in the same direction as the output Wheel, we insert an idle between the two, which does not modify the output speed.



***2ºESO C-D***
***Teacher:***
*Maite Garrido*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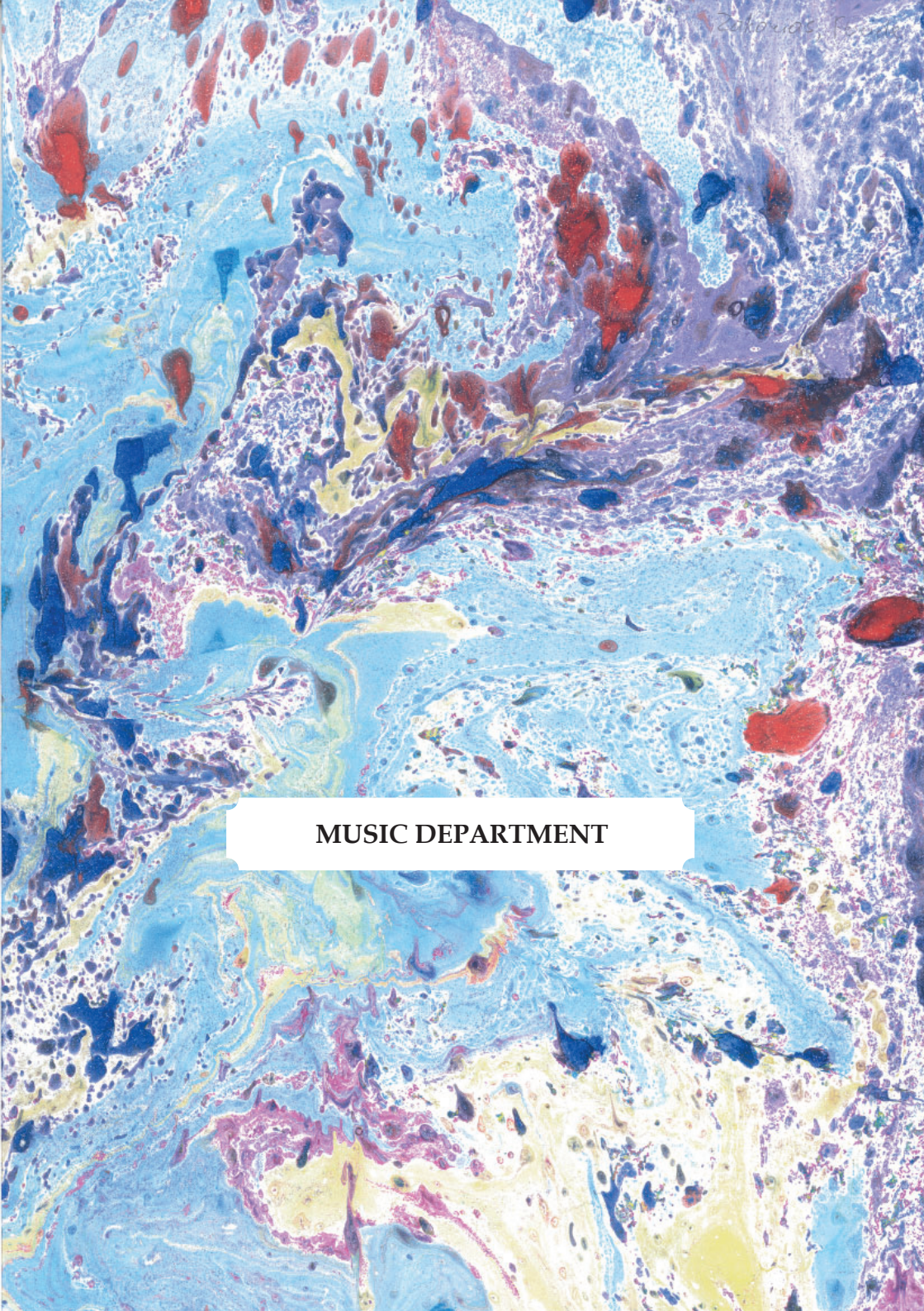

MUSIC DEPARTMENT

## *The Planets by Gustav Holst*

Gustav Holst was a English composer, arranger and teacher. Although The Planets is his most famous work, he composed many other works across a range of genres.

MARS, the Bringer of War

- It is the first movement in the work.
- This movement tries to represent the Roman god of war.
- Starts with the silence and afterwards there is a crescendo until the rhythm is very strong.
- The music is eerie and often used in the media.

VENUS, the Bringer of Peace

- It is the second movement in the Orchestral Suite.
- Its music is slower and beautifully eerie.

MERCURIO, the Winged Messenger

- It is the third movement in the Orchestral Suite.
- It is a fast movement, on 6/8.
- Quick and powerful in equal measure.
- It is the shortest movement in the work.

JUPITER, the Bringer of Jollity

- It is the movement four.
- As a king of the gods, Jupiter is impressive and majestic.
- In this movement, Holst supposedly portrays the characteristics of "abundance of life and vitality".

SATURNO, the Bringer of Old Age

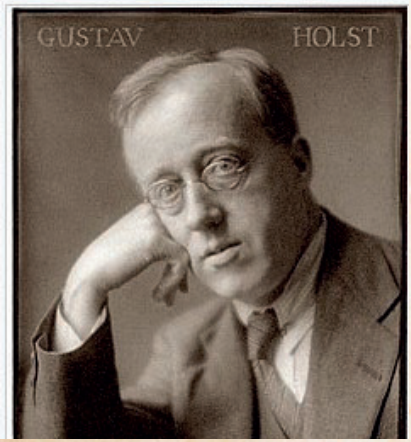
- It is the fifth movement.
- It is a favourite movement of Holst.
- The beginning is slow and almost unsettling, until the music expands into a heavy march.
- The piece that Gustav Holst made is imitating the tiktok of a watch.
- Its music represents what it is like to get old.
- It is the longest piece in the movement, it lasts nine minutes.

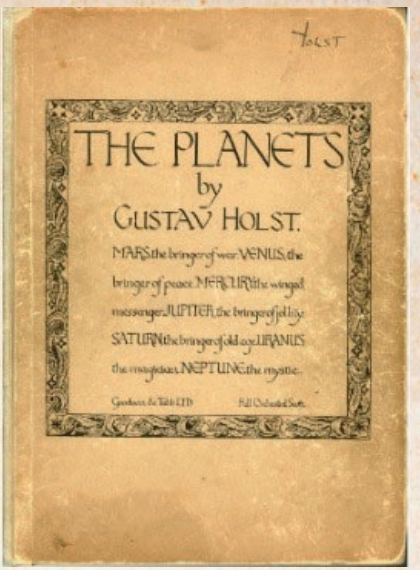
URANUS, the Magician

- It is the sixth movement of the orchestral suite.
- The music is composed in allegro.
- The full orchestra shows the impressive power of this icy planet, represented on Greek mythology as the god of the sky.
- Holst was inspired by Dukas, Saint-Saens, Mussorgsky for this piece.

NEPTUNO, the Mystic

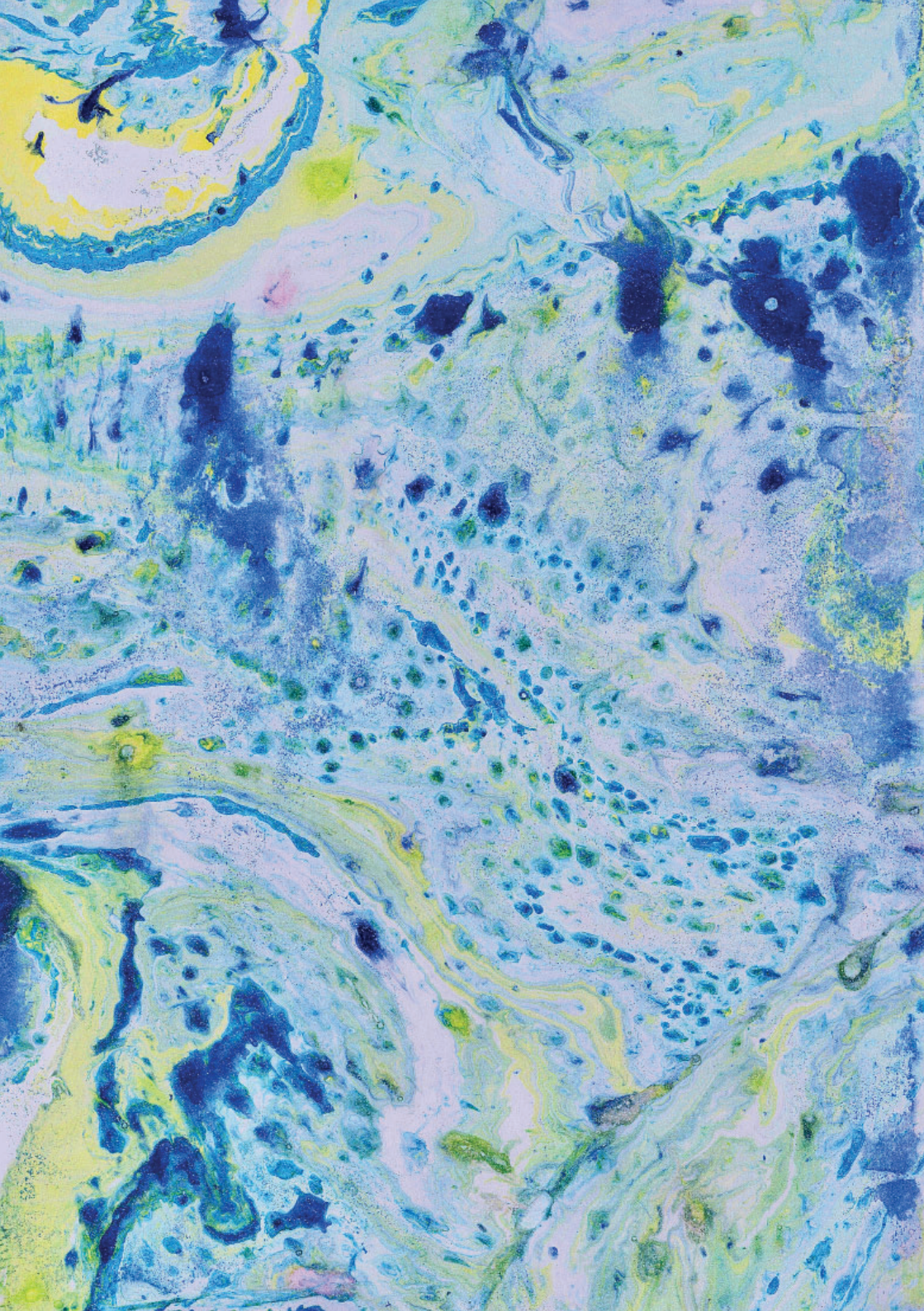
- Neptune is the last movement in Gustav Holst's Planets.
- The music throughout the last movement is calm.
- He used an organ as well as a piano to represent this planet.
- The orchestra is joined by an offstage female choir who sing a soft, wordless Tune.




Would you like to listen The Planets?

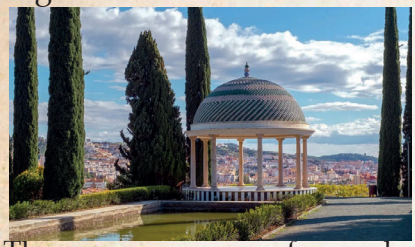
***2ºESO D***
***Teacher:***
*Carmen Castro*




BIOLOGY DEPARTMENT

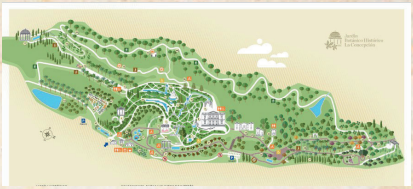
## *Concepcion botanic garden*

The La Concepción hacienda was founded in the union of several farms located near the Guadalmedina river, in the upside of the city of Malaga.



There were crops of cereals, olive trees, almond trees, vines and, above all, citrus fruits in that place. Its creators were the Marquises of Casa Loring, Jorge Loring Oyarzábal and Amalia Heredia Livermore, both sons of well-known anglo-saxon businessmen who came to the city in search of their fortune.

We have chosen some of his most important collections which we explain in this article.



Palm trees

Palm trees are monocotyledonous plants, which are characterized by having a single embryo in their seeds. There are more than 2.800 species spread over the five continents.

In La Concepción there are 86 species located between the Historical Garden, where you can enjoy about thirty of them. Some of them are more than 100 years old. The zone of palm trees was created in 2002 and they are grouped by continents. and the southern zone where those that require a warmer environment meet.

Insectivorous plants

They are plants that live in humid environments, such as swampy areas, which are poor in nutrients.

Their most singular characteristic is that they present an adaptive response that consists of modifying their leaves to capture their prey.

Bromeliads

Most are herbaceous plants with short stems, with a rosette of rigid leaves with a colored underside. Water accumulates at the base of the leaves and is taken up by the plant through specialized absorber hairs.

Orchids

They are perennial herbaceous plants, highly evolved and with specialized flowers in relation to their pollinators. There are more than 25,000 species and they live on almost every continent. Some species are terrestrial and others epiphytes.

Aquatic plants

Aquatic plants are distributed among the ponds, estuaries and pools of the garden.

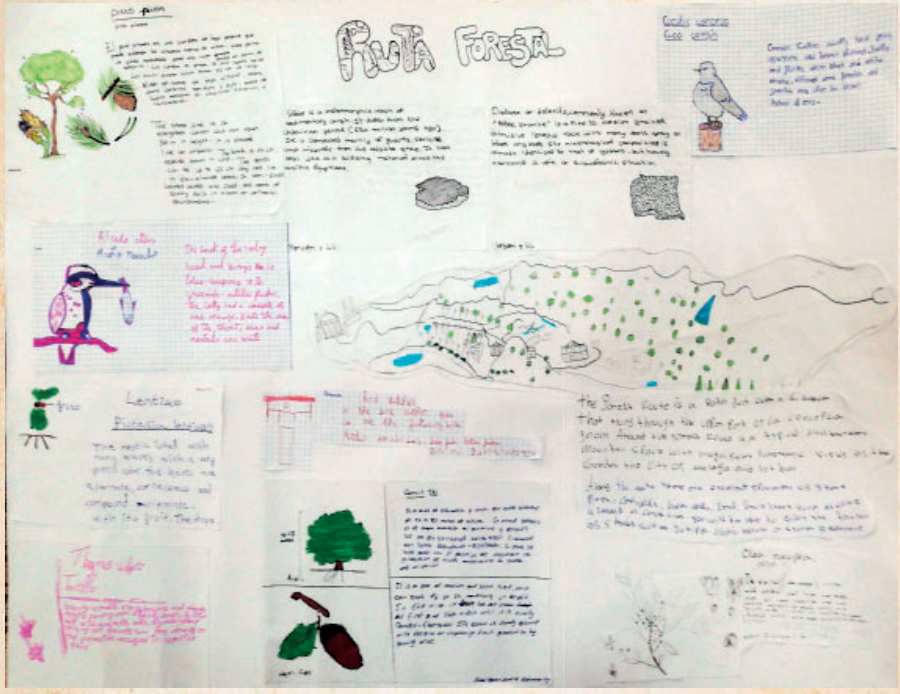
The most common adaptation is the presence of lightweight internal packing cells, aerenchyma, but floating leaves and finely dissected leaves are also common.

Among them there are those that live exclusively in water, such as:

- water lilies (of the genera Nymphaea)
- lotus (Nelumbo nucifera)

Primitive plants

250 million years ago plants began to produce pollen and seeds for the first time, which helped them reproduce better. These first seed plants were the Gymnosperms, plants that have survived on the planet since then and of which a good sample is gathered.



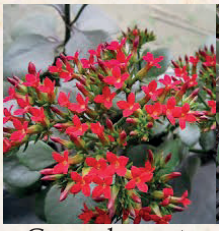

***1ºESO***
***Teachers:***
*Carlos Luciano González*
*Isabel Cobo*
*José Manuel Amador*
*Juan Ignacio Contreras*

## *Concepción botanic garden*

La Concepción occupies an area of fifty-five hectares, of which twenty-five belong to the historic garden. Next to it, there are thematic gardens and a large area of natural crassulaceae.

The Crassulaceae (from Latin crassus, thick) have succulent leaves and a unique form of photosynthesis. Flowers generally have five floral parts. Crassulaceae are usually herbaceous but there are some subshrubs, and relatively few treelike or aquatic plants.

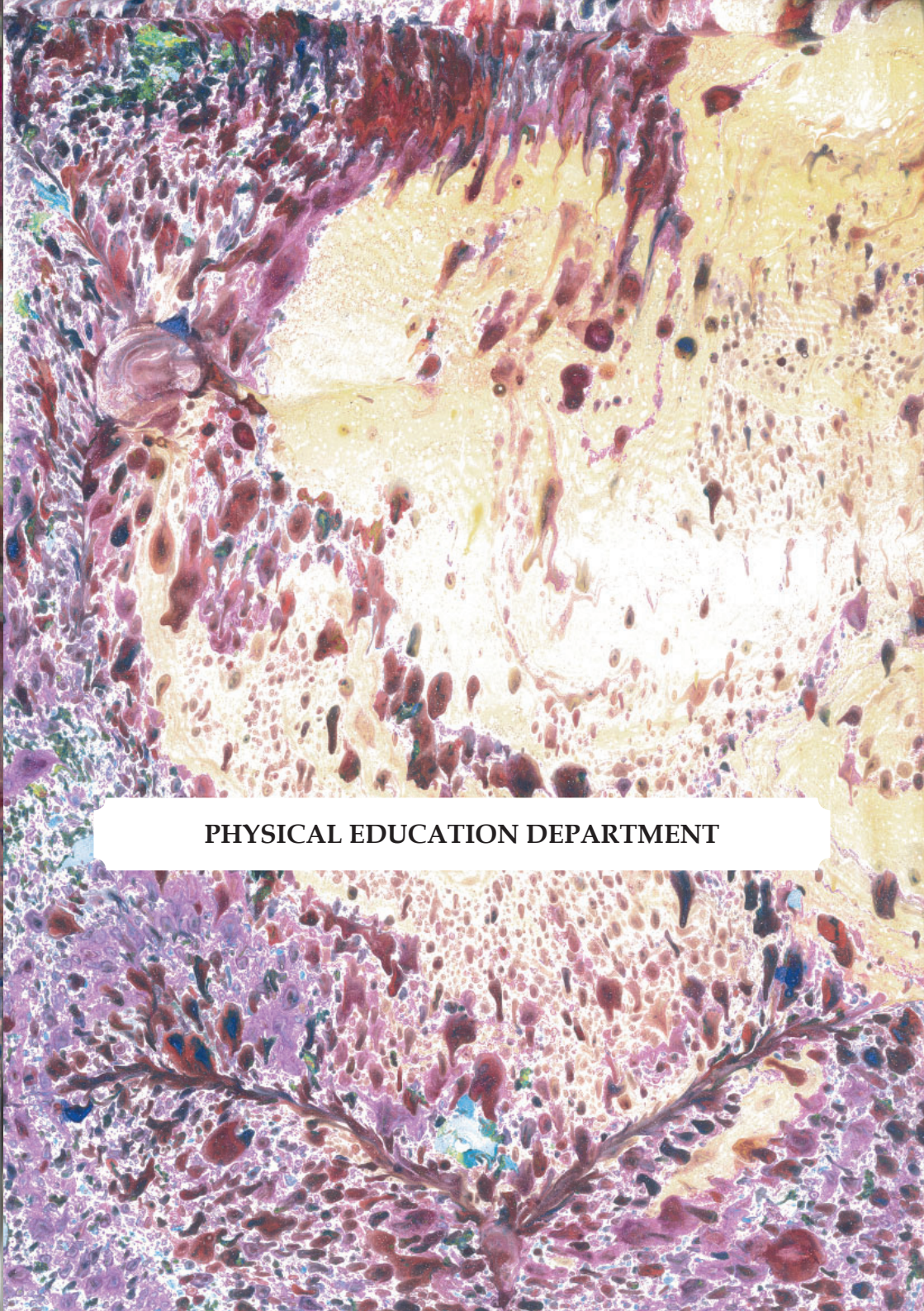
Crassulaceae are mainly perennial and have economic importance as garden plants. Many members have a bizarre, intriguing appearance, and are quite hardy, typically needing only minimal care. Familiar species include Crassula ovata (jade plant or friendship tree), Kalanchoe blossfeldiana (florists' kalanchoe).



Crassula ovata

Kalanchoe

***1ºESOA***
***Teacher:***
*Isabel Cobo*



# PHYSICAL EDUCATION DEPARTMENT

## *REAL CLUB MEDITERRANEO*

### *Origin and founders (First president)*

On the 20th of September 1873, the Real Club Mediterráneo was founded. It was promoted by a group of Malaga youths who were amateur enthusiasts invested in nautical sports, and whose primary objective was to practice rowing.

Photo of the origin of the club

The first president of the Real Club Mediterráneo was Tomás Heredia Livermore. He was born in Madrid on the 19th of January 1819, and died in Malaga

### *Description of the facilities and sports offered when the club started*

The first club facility was a boathouse in the chapel. Rowing was the first sport that was undertaken, and then afterwards this was accompanied by sailing. Later, in addition to these, different pursuits were added such as swimming and recreational fishing.

### *Description of the club´s evolution*

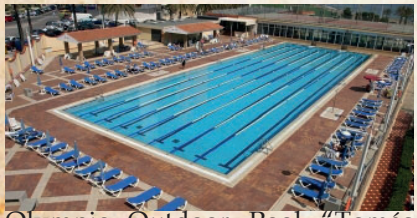
Since its founding, the Real Club Mediterráneo has been dedicated to the promotion of, and participation in, maritime sports activities. At the outset, the club was founded on rowing and sailing, to which were added swimming and recreational fishing. In the present day, sports such as triathlon, futsal, tennis, paddle tennis and fronton are also enjoyed. Additionally, swimming, paddle tennis, sailing, and rowing, have also been adapted for people with disabilities. The construction and resources of the club were improved over time, so

that today the club boasts a gymnasium, a library, and a physiotherapy room. The present day club is located in the port of La Farola, and the club continues to be developed and improved.

Photo of the club in the 70-80s

***Olympic Games and RCM. Relevant athletes***

Inside the club we can find an Olympic-size outdoor pool, the 50-meter pool has unbeatable features, thanks to its location next to La Malagueta beach. This facility is filled with purified seawater and is built flush with the ground, without curbs. Its amplitude allows it to be used both for sports practice and for bathing and relaxing. It also has access for the physically disabled.



Olympic Outdoor Pool "Tomás García Zamudio"

Gonzalo Fernandez de Cordoba y Larios. Antonio Rodríguez Sales. Felix Gancedo Gomez. Pedro Casado Bolin. Maria Pelaez Navarrete. (Gold Medal (2011), Medal of the Province of Malaga (2009), Medal of Andalusia (2010). Theresa Zabell Lucas. (Participated in two Summer Olympics, earning two gold medals in the 470 class)

***Olympic torch.***

***The club today. The Andalusian Medal of Honour***

The Real Club Mediterráneo received the Andalusian Medal upon the celebration of its 150th anniversary. The governing body of the Junta de Andalucía awarded the medal in the category of sport. This commendation recognises the important legacy of the Real Club Mediterraneo in terms of its historical, social, cultural impact in the last 150 years since

its foundation. In the words of the president of the club, ``this medal belongs to all the members of the club, and all the people of Malaga, since the club is open to all its citizens and has grown hand-in-hand Malaga itself.´´

***The club´s current logo***

***Conclusion***

In conclusion; the Real Club Mediterráneo was founded in 1873 . The first president was Tomás Heredia Livermore. The first facility was a boathouse in the chapel and rowing was the first sport to be played. In the present day, there are more types of sports that are practiced such as triathlon and fronton.Within the facilities we can find an Olympic pool and a heated pool. Some relevant athletes may be María Pelaez Navarrete and Pedro Casado Bolín; The Andalusian Medal has been awarded in the year of its 150th anniversary

***Club 's curiosities***

The first team of rowers was in 1874.

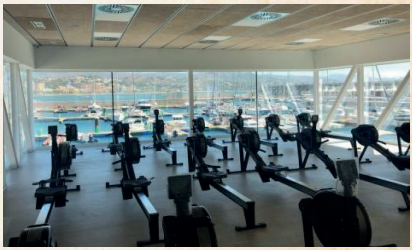
On the 21st of March 1893, it received the title of Real, being the first Spanish club to be granted such a distinction.

The pools are made of salt water, directly extracted from the sea.

Within the club, apart from an outdoor pool, we can find a heated pool, its waters range between 27.5 degrees inside the pool while outside the pool it is about 30º degrees.

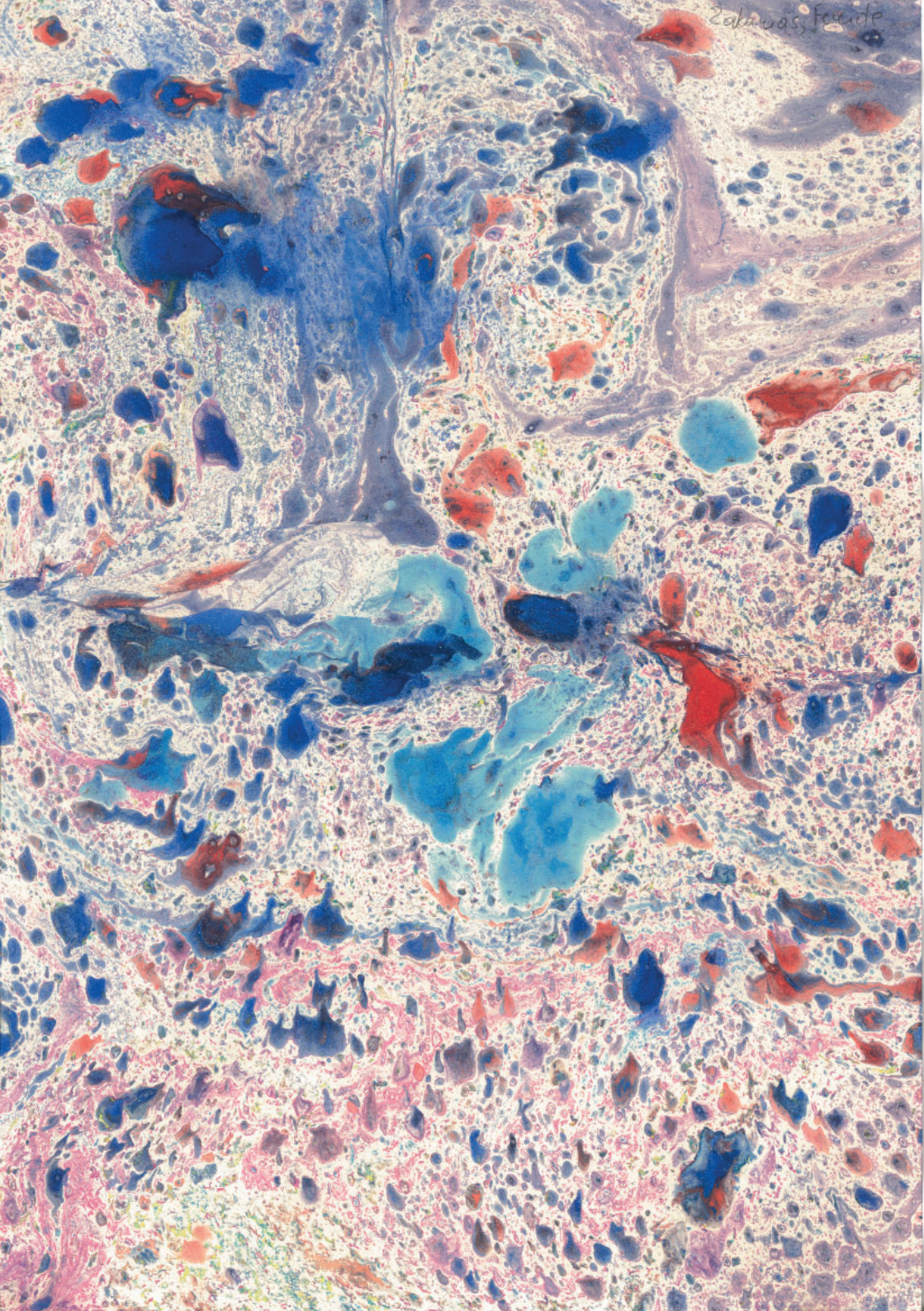
If you would like to sign up, you should know this information:

You would have to pay 3,000 euros to register with the club and then there would be some fees monthly of 90 euros.



***3ºESO D***
***Students:***
*Marina Navarro Linares*
*Juan Carlos Pesantez Piscocama*

***Teacher:***
*Javier Cuenca*



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