

Aurelio Peccei

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If one sends out questionnaires to learn if people know anything about the Club of Rome, *The Limits to Growth* and Aurelio Peccei, the result is more likely to indicate that most people heard about the Club of Rome while failing to recognise Aurelio Peccei. As an internationally famous think-tank, the Club of Rome makes itself a household name for *The Limits to Growth*. However, the founder of the think-tank and the Italian who promoted a different view of growth, Aurelio Peccei, is not well known to the public, at least not as well as the first two.

Founded in April 1968, the Club of Rome is a world-renowned think tank and the first international non-governmental academic group on futurology. It has successfully predicted such major future trends in the world as the oil crisis in 1973, the world food crisis that broke out in the early 1970s, and climate warming. Together with the RAND Corporation in the United States and the Nomura Research Institute (NRI) from Japan, all of which are known as the three major think tanks in the world. The *Limits to Growth* is a masterpiece of the Club of Rome, which has provoked a stir across the world once it was released. Overnight, the issue of "growth" has been the hot topic for the global society to discuss, and the debate upon "whether there is a

limit to growth" has lasted for a long time, and no agreements have been reached so far. At present, the report has been translated into 37 languages and sold a total of 6 million copies, making it one of the most influential and best-selling academic works of the 20th Century.

This article aims to introduce the mastermind Peccei behind the mentioned two phenomena. It is not easy to describe Peccei merely with a resume. With regard to a brief introduction about Aurelio Peccei, he was born on July 4, 1908, who grew into an Italian industrialist, philanthropist, social activist and scholar researching global issues. Also, he found the Club of Rome and made himself a representative of the Realist school of Futurism. Afterwards, it is difficult to comprehensively list out Peccei's experiences about his study, work, ideas and influential activities, especially about his various adventures all over the world. This article tries to sort out all kinds of information and takes efforts to justly display the image of Aurelio Peccei as a legendary man who is an entrepreneur, social activist and well-known scholar.

I

# First Shone

Peccei's ancestors first lived in Hungary and started their journey west from the end of the 19th Century, thus successively living in Croatia, Dalmatia and Venice. Peccei's father, Roberto, finally settled in Turin, and his mother, Eugenia Rivotto, was born in Piedmont and raised by a peasant family in a remote area. Peccei was the second child in his family. Big brother Elio was born in 1904, and little sister Massimiliana was born six years later. Some people say that the nature of Venice adventurers and business people may explain Peccei's achievements in business and social activities.

Peccei studied economics at the University of Turin, one of the four famous economic universities in Italy. He studied hard and got excellent grades, which won him the opportunity to study at Sorbonne University in Paris. Afterwards, Peccei studied French at the Sorbonne University for six months, during which he met many scholars and social activists with different views and beliefs, thus driving him to devote himself to the study of French politics, social economy and French spirit. In this way, the concepts of "liberty, equality, fraternity (liberté, égalité, fraternité)" rooted in Peccei's mind. While staying in Paris, France, Peccei was influenced a lot by Bertrand de Jouvenel, a French writer, economics and

sociologist. He had taught economics and sociology at famous universities such as Oxford, Cambridge and Harvard in the United Kingdom. Jouvenel was also the founder of French futurology and later founded the Futuristic Research Center. His academic views planted the seed of Futurism in Peccei's heart.

At that time, the Socialist Revolution in the Soviet Union had undergone remarkable achievements. Therefore, Peccei worked hard to learn Russian and then paid a visit and travelled to the Soviet Union during his university period, which significantly impacted Peccei. He once said that he admired Marx and believed that the ideological wealth left by Marx should be adapted to the new historical conditions and continue to develop. Although Peccei said that he was not a Marxist, he was influenced by Marx's thought on Neo-Humanitarianism in his later life. After the victory of the October Revolution in 1917, Russia's political, economic and social development had entered into a new historical stage, and then the Soviet Union, under the leadership of Lenin, developed rapidly. In March 1921, the 10th National Congress of the Communist Party of Russia (Bolshevik) adopted Lenin's New Economic Policy, which was Lenin's major practice of exploring new ways and methods of building Socialism

according to Russia's backward economy and low productive forces. It provides important guidance for the realisation of socialist industrialisation and agricultural collectivisation in the Soviet Union. When the topic of Peccei's PhD thesis was selected, the Soviet Union benefited from the new economic policy, and industrial and agricultural production soon returned to the pre-war level. With a five-year plan, the national economy has a good momentum of development. At this time, under the influence of the economic crisis, the economy of capitalist countries fell into depression and retrogression, which was in sharp contrast to the Soviet Union. Inspired by the Soviet Union's economic development achievements, Peccei chose to write his graduation thesis on Lenin's New Economic Policy. In 1930, Peccei received his doctorate in economics through his thesis defence with honours.

When he was studying at the University of Turin in 1927, due to the financial constraints of his family, Peccei, who was only 19 years old, applied for a part-time job at Fiat to pay for his education. Fiat S.p.A was a famous Italian automobile manufacturing company in the world — one of the top ten automakers headquartered in Turin. Fiat was founded at the end of the 19th

Century, and its business had developed rapidly since its establishment. In the late 1920s, Fiat began to expand its businesses overseas, including France, Spain, Poland and the Soviet Union. At that time, the Soviet Union was in the first five-year plan period, and its industrialisation developed rapidly, so it became a critical trading partner. With a knowledge background of economics and Russian, Peccei was very much needed by Fiat's trade team working with the Soviet Union. Thus, Peccei's job application was quickly approved, and he joined Fiat's Special Affairs Division.

Fiat's Special Affairs Division was responsible for coordinating the company's major international projects when Fiat and the Soviet Union had just signed a contract to build a large industrial foundry near Moscow. Peccei's first task was to promote the implementation of the project. Although Peccei has no previous work experience, he may have an innate business talent, and the project is going well under his coordination. Thanks to the project, Peccei made many friends in the Soviet Union, attracted the attention of Vittorio Valletta, who was president of Fiat at that time and had the opportunity to get in touch with Palmiro Togliatti, who was the next General Secretary of the Italian Communist Party. Peccei's straightforward personality,

excellent capability and other qualities, business partners cannot help but become his sincere friends in personal life. With the growth of Peccei's later experience, he had more and more friends in various industries, and even many heads of state have become Peccei's friends, many of whom had offered Peccei much help.

Because of his excellent ability, Peccei soon became the industrial manager in the Special Affairs Division at a young age, but he still maintained a hands-on and meticulous style while dealing with some works, and Peccei also developed a strong shorthand ability during this time. After a period of experience, Peccei's expectations and goals were also changing. He gradually felt that his work was trivial and repetitive, his vision was limited, and he had the idea of looking for new opportunities, hoping to change the environment and meet more challenges.

II

# Journey to China

Not for long, the opportunity came. In 1935, Peccei was sent to China to be responsible for the construction and operation of the Sino-Italian Nanchang Aircraft Factory. Before the 1930s, the economic relationship between Italy and China was weak, and the trade volume was tiny. In 1929, the economic crisis from the United States swept the world. In order to get rid of the domestic economic crisis, Italy decided to expand the scale of foreign investment. At that time, China had a population of 500 million, which made it the first destination for Italy to open up overseas markets. In October 1933, Italy sent a delegation to investigate the feasibility of cooperation between the two countries in national defence and other fields.

In fact, before 1933, the United States sent an air force mission to set up a National Defence Aviation School with the government of the Republic of China. However, as the US Air Force Mission refused to participate in the Kuomintang (Chinese Nationalist Party) crackdown after the outbreak of the Fujian incident in 1933, the Kuomintang expelled the US Air Force Mission. It happened that the Italian delegation arrived at that time, and the government of the Republic of China soon reached a cooperation agreement with Italy. According to the agreement, Italy would set up

an air force mission in Nanchang to provide technical support to the government of the Republic of China for free, which was the first foreign delegation located in Nanchang and had 16 members by the end of 1934. The Italian Air Force Mission established the pilot training school, which trained 262 Chinese pilots in just one year, including China's first female pilot. Shortly after the opening of the school, the Kuomintang ordered a batch of aircraft from Italy. In order to further expand trade volume, the Italian government requires four airlines, Fiat, Caproni, Breda and Savoia, to form an Italian aviation alliance with China. Fiat, which occupies a leading position in the alliance, proposed to the Italian government on behalf of the aviation alliance to co-establish an aircraft factory with the government of the Republic of China. With the consent of the Italian government, Fiat appointed Acampora to sign relevant documents on January 21, 1935, in Shanghai and Kong Xiangxi, Minister of Finance of the Republic of China, for the joint establishment of the Italian-Chinese Aviation Association between Italy and the National Government. Among them, Italy helped the government of the Republic of China to set up an aircraft manufacturing factory. In the negotiations to determine the location, Chiang Kai-shek ordered the factory to be located in

Nanchang, that is, now, for the sake of encircling and suppressing the revolutionary base areas. The predecessor of Hongdu Aviation Industry Group.

Peccei's special ministry also handles the Sino-Italian Nanchang Aircraft Factory project, but no one in the department is willing to leave Turin for a long time, and Peccei found the job challenging, and he volunteered to be in charge of the project and was approved. When Peccei was preparing to take up his post in China, there was no news after his passport application materials were reported. To this end, Peccei sought help from Gino Minatti, a university classmate who worked in the Ministry of Foreign Affairs. Minatti was the head of the Italian Foreign Ministry's office at that time. He received Peccei in his office. After learning about the situation, he immediately got Peccei's application documents from the relevant departments and found that Peccei's material cover was marked with information such as "anti-Fascism" and "further investigation." Under Minatti's coordination, Peccei received his passport three weeks later. Peccei has always been grateful for this. Minatti moved to Argentina after World War II, but it did not go well there. Just as he was about to return to Italy, he met Peccei, who had just arrived in Argentina

to be in charge of Fiat's Latin American operations. The next day, Peccei offered him a job in Fiat's Latin American branch, the head of OECEI (Oficina de Estudios para la Colaboración Económica Internacional), which will be mentioned later.

In December 1935, Peccei arrived in China. Although the aircraft manufacturing plant was built in Nanchang, all the equipment needed to build the plant had to be transferred from the Shanghai port, So Peccei settled down in Shanghai to receive all kinds of accessories from Italy. He stayed at the official residence of the Italian Ambassador to China Loiacono for a month and then moved to the Cathay Hotel in the Shanghai City centre. Loiacono official residence, built-in 1932, was located at 390 Route Ferguson (now Wukang Road). It is now a famous European style building in Shanghai. Cathay Hotel was the predecessor of the Peace Hotel, once known as the "Best Building of the Far East", is an upscale and luxurious hotel. Peccei, who was only 27 years old, had stayed here for four months in a row, which showed that Peccei received high honour as well as a satisfying salary in Fiat at that time.

Peccei was not satisfied with the task of receiving spare parts from the aircraft manufacturer. After completing the work, Peccei decided to expand the Fiat car sales business in Shanghai. At that time, Shanghai was the largest city in Asia and a cosmopolitan city on a par with London, Paris, New York and Berlin, accounting for 66% of its output value and 61% of its import and export trade. The United States, Britain, France and other countries had all set up automobile sales companies in Shanghai. Peccei thought that the initial investment of establishing the new Fiat sales company in Shanghai was too high, so he first tried to establish a partnership with the American-founded Moody Motors Company, making Fiat one of the leading sales brands of Moody Motors. It is Peccei's first business expansion outside his job, and this experience has accumulated experience for Peccei to assume important responsibilities in several large companies.

While working in Shanghai, Peccei did researches about Shanghai from different perspectives by visiting almost every corner of Shanghai, and then he was deeply impressed by many phenomena. The first thing that left Peccei a deep impression was expanding Shanghai's population and coming problems. According to responsible data, since the opening of the port in

1843, Shanghai had entered an era of rapid development, which continued to attract a large number of Chinese and foreign people, and then permanent residents had witnessed the skyrocketed development. Since then, the population in Shanghai increased from 1.29 million in 1910 to 3.85 million in 1937. The rapid increase of population in Shanghai had brought up a series of social problems, the most prominent of which is the housing problem, especially the crowded living space, poor environment and rising housing rents of the middle and lower classes. One day, Peccei was shocked when he saw a sign saying "Chinese and dogs are not allowed" at the gate of Shanghai International Diaspora Park (now Shanghai Bund Park). This discriminatory and insulting language, which was regarded as an unforgettable example of a century of humiliation by the Chinese people, and the "non-Chinese" with conscience also felt uncomfortable and indignant about this. Peccei never forgot this situation. He said that despite Shanghai's great charm, the city always contains all kinds of hidden risks and terrible discriminations. Such an experience had left a strong mark on Peccei's life, and he believed that, to some extent, he became mature in Shanghai.

Acampora was the president of the Sino-Italian Nanchang Aircraft Factory and Peccei was appointed Director of Operations and came to Nanchang from Shanghai in April 1936 to be responsible for the construction and operation of the aircraft manufacturing plant. Under Peccei's organisation, the first aircraft was successfully assembled in November 1936. The factory was completed in February 1937 and was put into full production in April 1937. It was terrific progress in China in the 1930s. At that time, Nanchang Aircraft Factory had eight main factories and one office building, with more than 200 Italian employees and more than 300 Chinese employees, and ranked first in the far East regarding plant equipment and scale. After the Nanchang Aircraft Factory was put into production, the first thing it produced was the Savoia S-81 twin-engine bomber, the fuselage was made in Italy, and Nanchang's production capacity was only 20% of the total aircraft. Even so, it was a significant breakthrough in China because it was the first time in China to make such a large twin-engine aircraft. At present, the location of the Sino-Italian Aircraft Factory is the old campus of Jiangxi Normal University (Qingshan Lake Campus). The prominent relics include command tower, aircraft assembly plant and pipeline integrated workshop, namely shed factory (now Bayi Auditorium), integrated

storage, greenhouse workshop site, aircraft runway (formerly Jiangxi Provincial Government Avenue), factory roads (now Jiangxi Normal University campus roads), as well as many historical photos. In April 2019, the former site of the Sino-Italian Aircraft Factory was selected into the second batch of China's industrial heritage protection list. Four areas of Jiangxi Province has been selected into the list. In addition to the Sino-Italian Aircraft Factory, there are also Guantian Central Military Commission Arsenal, Dajishan Tungsten Mine, Xihuashan Tungsten Mine.

While recalling his life in China in his later years, Peccei mentioned that time spent on Nanchang had helped him notice that the bandits were rampant in southern Jiangxi and that the "bandits" mentioned by the National Government should be the Hunan-Hubei-Jiangxi guerrillas led by Fu Qiutao. Fu Qiutao, a native of Pingjiang, Hunan, joined the Communist Party of China in 1929. He successively served as political commissar of the Hunan-Hubei-Jiangxi military region during the war, Chairman of the Hunan-Hubei-Jiangxi Anti-Japanese Red Army Military Committee, and the commander of the Hunan-Hubei-Jiangxi People's Anti-Japanese Red Army guerrilla detachment. After the founding of the People's Republic of China,

he served as head of departments of the General Staff Force and deputy director of the People's Armed Committee of the Central Military Commission and was awarded the rank of General in 1955. Many members of the guerrillas were workers and peasants who followed Mao Zedong in the Autumn Harvest Uprising before the Long March. Peccei said he did not know at the time. Peccei once wrote in his autobiography if he had known that those so-called "bandits" were the local peasant revolutionary team organised by Mao Zedong and his followers before the Long March, there is no doubt that he will try to visit them.

Just when Nanchang Aircraft Factory was preparing for mass production, the Anti-Japanese War broke out in July 1937, and the Nanchang Aircraft Factory was attacked by Japanese aircraft at 5:00 p.m. of August. The Italian ambassador to China asked the Italian technicians from the Nanchang Aircraft Factory to evacuate south to Hong Kong immediately. Acampora was in Nanjing on official business, and Peccei was in charge of the evacuation of all Italian staff and their families as the Director of Operations. Peccei coordinated with the Republic of China government to provide a train for the Italians, retreated to Hong Kong and returned to Italy by passenger ship. However,

Peccei did not leave together. He returned to Nanchang to deal with the aftermath of the aircraft factory and did not leave for home until December 4, 1937. A few days before he returned home, the government of the Republic of China paid him the final payment of all the aircraft orders in cash. At that time, Paola, the first child of Peccei and his wife Marissa, was about to be born. Peccei, was carrying luggage full of cash, made eight transfers from Hong Kong and finally arrived in Turin before Paola was born. Peccei's experience was widely celebrated in Turin, and *Corriere della Sera* (Evening Courier) published a special headline for Peccei, calling him "the young man who carried several bags of banknotes to Fiat".

During his time in Nanchang, Peccei was satisfied with his work in an aircraft factory and expanded much business in the fields of agricultural machinery, transportation, and irrigation. Peccei even supported Chinese employees of the Nanchang Aircraft Factory to leave the factory to set up their own company, which specialises in the import and distribution of Fiat raw materials. Peccei has made a high return on Italy's investment in the Nanchang aircraft plant by expanding its business. The accounts show that Italy's return on investment is four times higher than that of the United States

and Germany, which opened aircraft plants in China during the same period. Although Peccei devoted much energy to the Nanchang Aircraft Factory, all his efforts disappeared due to political turmoil. Peccei felt that no matter how strong his ability was, he could not cope with the rapid political changes. The business also needs to keep up with the situation and insight into the future, which has become one factor contributing to his remarkable achievements in the business field in his later years.

Peccei's experience and what he saw and heard in China had left a deep impression in his mind. He once said that the Chinese people often moved him. He believed that Chinese people have many admirable qualities. For example, Chinese people have the skills and wisdom to quickly take up new and complex jobs, have long-standing cultural traditions such as patience and politeness, and have the ability to co-exist with the land and nature. Peccei believes that it is precisely because of these qualities that the Chinese people could maintain the stability and continuation of Chinese culture for a long time in the chaotic world. Peccei's experience in China has made Peccei have a deep affection for China. Daisaku Ikeda, a well-known Japanese scholar, wrote in his preface to his dialogue with Peccei, *Alarm Bell for the 21st Century*, the

furniture, furnishings and paintings in Dr. Peccei's home are all Chinese and appear to be very coordinated. It can be seen that Peccei has always cherished the love and respect for Chinese civilisation in his heart.

After Peccei returned to Italy, out of the Anti-Japanese War, the Kuomintang government moved the Sino-Italian Nanchang Aircraft Factory to Chongqing and renamed it the Central Second Aircraft Factory. After the victory of the Anti-Japanese War, the National Government moved the Second Aircraft Factory back to Nanchang in 1946. After the victory of the War of Liberation, based on the former Second Aircraft Factory of the National Government, New China established the state-owned Hongdu Machinery Factory in Nanchang in 1951, that is, the present Hongdu Aviation Industry Group. Since the establishment of the factory, Hongdu Aviation Industry Group has created many domestic firsts, such as trial production of New China's first aircraft, production of New China's first motorcycle, and self-design and development of the first primary trainer machine. At present, it is a high-tech enterprise group integrating the scientific research, production and management of aviation products and mechanical and electrical products in China.

A month before Peccei returned to Turin from Nanchang, Italy joined the Anti-Comintern Agreement and allied with Germany and Japan. Peccei, who came into contact with Turin's resistance to Fascist rule as a student, was so resistant to Fascism that he refused to wear black shirts (Mussolini founded the National Fascist Party in 1921, whose members all wore black shirts). When Peccei returned to Fiat's headquarters in Turin, he found that Fiat was working with Fascists, and Chairman Giovanni Agnelli even elected Fascist Giuseppe Broglia to the board of directors. Peccei was disappointed that Fiat had lost its principles and beliefs and that he should change the focus of his career and not continue to work for a company integrated into the Fascist war machine. So Peccei expressed his thoughts to Fiat president and good friend Valletta, who already appreciated Peccei's achievements in China. He appreciated Peccei's verve and said that he opposes Fascism, but he did not publicly express it for various reasons. Valletta supported Peccei's idea, agreed to keep Peccei's job at Fiat, and reminded Peccei to keep his family safe. After Peccei sent his wife and two children to his mother Rivotto's former home in Piedmont, Peccei joined the Anti-Fascist camp.

Peccei joined the Justice and Freedom Organisation led by the Italian Action Party, which advocated the improvement of Italian society. They established armed forces in cities and the Alps and led Italy's Anti-Fascist struggle with the Italian Communist Party. At the beginning of the struggle, the allies supported the Justice and Freedom Organisation, but some specific support and actions were often not timely. To this end, the organisation is prepared to send people to the Allied Command to contact and mediate. At that time, the Allied Command was located in Bern, the capital of Switzerland. Bern was also the American intelligence centre in Europe, and Nazi spies supervised Bern. It was viewed very closely, which made the task of going to the Allied Command very difficult. Considering Peccei's entrepreneurial identity and foreign language and communication skills, Peccei was finally chosen for the job. In 1942, Peccei came to Bern under cover of doing business abroad. He did an excellent job, and Justice and Freedom received active and effective assistance from the allies.

On September 8, 1943, after Italy and the allies signed an armistice, German forces occupied central and northern Italy, including Turin, and supported Mussolini to establish a puppet government called the Republic of Italy.

Continuous raids were carried out against civil resistance forces such as Justice and Freedom in the occupied areas. In January 1944, the allies landed at Anzio, Italy, which had a significant impact on the German army's frontal line of defence. The guerrillas also caused great damage to the communication facilities in the Fascist-occupied areas. The Fascist forces fell into a situation of being attacked on both sides, eagerly hoping to know the guerrillas' activities. Under this critical moment, Peccei was unfortunately arrested. In February 1944, Peccei went to Rome to receive instructions from the top leader of the Justice and Freedom guerrillas regarding combat operations. When he returned to Turin, he was arrested and imprisoned by the Fascist forces. As Peccei wrote the military plan and passwords in shorthand, it is difficult for anyone except himself to express the documents' full contents. It is an important reason why the Fascists did not immediately kill Peccei.

The Fascist forces of the Italian puppet regime imprisoned and tortured Peccei, threatening him to confess the guerrillas and military plans. Peccei knew that as long as the guerrillas did not receive the documents he had retrieved from Rome, they would realise that he had been arrested and try to rescue him. Therefore, Peccei decided to resist till the end,

trying to save more time by saying that the document's handwriting was illegible. Soon after, a friend of Peccei went to the prison to look for her missing son. She saw Peccei in prison. Peccei had been beaten beyond recognition. She identified him through Peccei's coat and told Peccei's colleagues and father soon after she went back. Peccei's father went to Valletta for help. Valletta thought of many things, but they did not work. After many efforts by Peccei's colleagues in Justice and Freedom, they finally sent a letter to a Fascist officer the last hour before Peccei was to be executed, saying, "if Peccei is executed, the next day you will become a corpse." The officer feared that the letter and did not carry out the death penalty on Peccei.

Since then, the prison no longer forced Peccei to confess, and later learned that it was because they wanted to take Peccei as a hostage to bargain with the guerrillas to protect themselves. In the following time, the guerrillas proposed various exchange plans to the prison authorities, but the prison did not agree. They thought that Peccei was tied to their lives, once they handover Peccei, they might be killed by the guerrillas. The situation faced by the Fascist forces became tenser and tenser in the later stage of the war, and they realised their defeat was

inevitable. Peccei was released from prison in January 1945. As for his experience in prison, he later wrote that during his 11 months in prison, he had the hope of rescue, while many of his inmates had no friends to rescue and had no support but to live on faith. This belief reflects the inner and incredible power of human beings to yearn for happiness and freedom. Even if people are shackled and handcuffed in prison, they can become free men as long as their minds are free.

After the liberation of Turin in March 1945, the National Liberation Council accused Fiat Chairman Agnelli and President Valletta of cooperating with the Fascists, removing them from their posts and taking over Fiat. The Fiat Reconstruction Committee, composed of Peccei and other three people, was established. Because of Peccei's rich work experience at Fiat and his contribution to the Anti-Fascist movement, he became the core member of the Reconstruction Committee. Immediately after Peccei was elected as a committee member, he met with Valletta, thanked him for his help and promised to try his best to help Valletta. He rushed to appeal for Valletta, and finally, the National Liberation Committee dropped the charges against Valletta. Peccei and Valletta's common good friend, the Italian Communist Party

Secretary Togliatti, also played a significant role in this process. The experience of Peccei helping Valletta also reflects Peccei's dynamic and righteous character.

While organising to rebuild the factory and resume production, Peccei cleans up hidden Fascists while actively looking for new business opportunities for Fiat to help the company get back on track. However, in the meantime, something happened that had a great impact on Peccei, which forced him to start a new business in Argentina. The cause of the incident was the death of Fiat Chairman Agnelli on December 12, 1945. At that time, the National Liberation Council accused him of collaborating with the enemy. Peccei, a member of the Reconstruction Committee, did not allow company employees to attend Agnelli's funeral for the sake of Fiat's overall interests. Agnelli's family strongly opposed this and said they would not forgive Peccei's behaviour. Agnelli is the founder of Fiat, and many of Fiat's board and senior executives are Agnelli's family or friends. Peccei was being excluded since this incident and increasingly isolated at the Fiat headquarters.

Peccei completed the task of rebuilding Fiat in just a few months. After completing the

task, the government ended Peccei's role as a government representative in Fiat and told Peccei that he could be offered with whatever he wanted as a reward. However, Peccei did not make any requests. He returned all the authority to manage Fiat to the National Liberation Committee, and he continued to resume his old job as an industrial manager at Fiat. At this time, Valletta returned to Fiat as president, and in order to repay Peccei's contribution to the reconstruction of the company, Fiat funded Peccei to study abroad. Peccei accepted this goodwill opportunity, and he visited the United States for the first time. The United States was implementing the Marshall Plan to help war-torn Western Europe and other countries rebuild their homes. Although the Marshall Plan originated from the needs of the international political strategy of the United States, it objectively promoted the development of European countries, which touched Peccei so deeply that he decided to continue to contribute to the reconstruction of his hometown of Turin. During this period, he also visited many underdeveloped countries in Asia, Africa and Latin America, and he believed that the experience of rebuilding their homes should also be introduced to the developing countries. The experience of this international expedition had an important impact on Peccei's later study of global issues.

After returning from the trip, Peccei served as the leader of several departments of Fiat, such as the production of agricultural machinery, tractors, trains and aircraft. He believes that these departments have lagged in technology and rigid management and need to carry out large-scale technological transformation and organisational system reform to operate in accordance with the concept of modern companies. Nevertheless, in the view of Peccei's bosses and colleagues, they contradicted Peccei's progressive and reform ideas, as they thought Peccei's views were too advanced, and they had resentment because Peccei did not allow employees to attend Agnelli's funeral at that time. They even hope that Peccei will leave Fiat as soon as possible. In order to properly handle the relationship between Peccei and his colleagues, Valletta suggested that Peccei leave the headquarters of Fiat Turin temporarily and develop his talents and abilities by developing Fiat's international business. Since then, after work, Peccei began to pay close attention to the world economic situation, studied and analysed the development status and potential of various countries, and finally found opportunities in Latin America.

III

# Commercial Achievements

Peccei's business talent has been brought into full play in Latin America. The establishment of Fiat Concord, founded in Argentina, evidenced his talent for the very first time. Great powers have plundered Latin America for a long time, and its development is slow. After the war, Latin America has implemented an import substitution policy for industrialisation, and there is a great demand and potential for industrial development. As the second-largest country in Latin America, Argentina has a superior geographical location, rich resources and products, and was less damaged by the World War II, so it was once known as the promised land of Latin America after the World War II. After Juan Domingo Perón was elected president in June 1946, he increased government investment to promote the rapid development of the Argentine economy. From 1946 to 1948, the Argentine economy grew at an average annual rate of 10%. Peccei is keenly aware that Argentina may be the stage for him to develop his business talent.

In 1948, Peccei proposed to set up a Fiat Latin American branch in Argentina. After being approved by Fiat headquarters, Peccei began working and living in Argentina with his wife Marissa and his three children. Peccei's experience in China made Peccei feel that

business strategy must adapt to the political situation, so Peccei formed OECEI (Oficina de Estudios para la Colaboración Económica Internacional). He hired Gino Minatti as the person in charge to analyse and study the impact of the political situation in Argentina and Latin America on industrialisation and commercial development and provide advice for Fiat's Latin American branch. It is the first in Fiat, and the later commercial achievements of Fiat's Latin American branch fully proven that Peccei's approach is brilliant. Peccei first founded Fiat Concord through the acquisition of the Argentine tractor factory and served as Chairman himself, then opened the diesel engine plant at Concord in response to the needs of the Argentine government for the development of electricity and shipping, and then created the Materfer factory for the production of train carriages and related equipment in line with the Argentine government's plans to build a railway system. Under the auspices of Peccei, Fiat Concord quickly became a major manufacturer of Argentine cars, tractors, railway equipment and diesel engines.

In 1974, Peccei retired as Chairman of the Board of Directors of Fiat Concord. At that time, the company employed 15000 people, the factory area was 470000 square meters, and the

annual export volume reached US\$36 million. It is an Argentine industrial giant, driving the development of related industries in Argentina, and the annual profits handed to Fiat head office have always been higher than those of other Fiat foreign branches. Peccei has established a sound welfare system at Fiat Concord, built cultural centres, integrated stadiums, and opened technical schools to provide free medical services to all employees and their families. Even today, more than 40 years later, this achievement is beyond the reach of many enterprises.

In fact, Peccei's business vision was not limited to Argentina. He was interested in the entire Latin American region. Peccei forgot to eat and sleep entirely devoted himself to his work, working at least 12 hours a day, seizing opportunities all the time. In 1954, Peccei founded an agricultural technology limited company in Santiago, Chile, to sell tractors and industrial vehicles. In 1955, Peccei signed a US\$350 million contract with Venezuela to build a large rolling mill in the Orinoco River Basin, and because Concord was not financially strong enough to support such a large-scale project, Peccei returned to Turin to seek support from Fiat headquarters. Unfortunately, Tacconi, head of Fiat's metallurgical operations, refused

because the Venezuelan rolling mill project was not in line with Fiat's development strategy. However, Peccei still did not give up. He made extensive contact with friends from the Italian industrial field and successfully transferred the contract to the Innocenti company. From then on, Peccei became a household name in Venezuela and became a good friend of several Venezuelan presidents.

The occurrence of first Suez Canal crisis at the end of 1956 had a significant impact on the international community. The contradiction between Britain, France and other Western countries and Egypt around the jurisdiction of the Suez River led to armed conflicts. In order to avoid damage to national interests in contradictions and conflicts, people from the Italian government, entrepreneurs and financial circles believe that it is necessary to set up an institution to take into account the situation in Italy. Support the underdeveloped countries, especially the Mediterranean countries, while safeguarding their interests. However, it was a complex task, and they approached Peccei in 1957 and asked him to be in charge of the organisation and leadership. Peccei believes that the institution should be a completely independent entity that is not controlled by the interests of shareholders and should provide non-

profit advice to developing countries and have the right to supervise or contract construction projects directly. Peccei offered to keep Fiat's job, and shareholders agreed to Peccei's proposal, so Peccei took the lead in creating the Italconsult S.p.A. and served as the General Manager.

A week after the establishment of the company, Peccei accompanied the Italian Foreign Trade Minister on an official visit to Iran and reached an intention to cooperate with the Iranian government on a land reclamation project. Because Italconsult was newly established and understaffed, Peccei invited his friends in Rome to help come up with a detailed plan for the project and quickly signed a US\$16 million contract with Iran. Based on this project, Peccei formed the project team of Italconsult. A year later, the experience of the Iran project helped Italconsult win a US\$60 million land reclamation project in Egypt. In fact, Peccei won a large number of export orders for the diesel engine plant he set up in Argentina through the land reclamation project in Egypt, making his company a win-win situation. In the operation and management of Italconsult, Peccei applied three management principles summed up by himself: first, attach great importance to the management of human resources; second, the

timing of project implementation should meet the needs of the situation; third, rational use of land, water and other natural resources. Under the operation of Peccei, Italconsult has developed rapidly. Within two years of its establishment, the company has done business in more than 50 countries, making it the largest and most active consulting firm in Europe.

In 1964, the famous Italian company Olivetti got into trouble. Camillo Olivetti founded Olivetti in 1908, and its business has proliferated since its M1 typewriter was unveiled at the World Expo in 1911. In 1938, Camillo's son, Adriano Olivetti, served as president of Olivetti and led the company to continue to make brilliant achievements. After Adriano died in 1960, Olivetti's business gradually declined until a severe financial crisis in 1964.

Taking orders in the face of crisis depends on Peccei's destiny. He is again asked to serve as interim president of the company and allows him to keep his position at Fiat and the Italian engineering consulting company. After Peccei took office, he first began to help employees restore confidence, analysed the market situation in-depth, formulated new goals and plans for the company, focused on computer

research and development and design, and improved the ability and quality of employees. In 1965, Olivetti launched the world's first personal computer, the Programma 101. As the most powerful and smallest personal computer at that time, the product was considered the first portable programmable computer. It was prevalent at the New York World Expo and was soon used by the National Aeronautics and Space Administration, U.S.A. (NASA) in the Apollo Program for Moon landing. In 1966, Olivetti launched the TCV 250 Video Display Terminal, which also achieved good sales. Olivetti quickly reversed its losses and returned to the road of successful development in 1967. Peccei, who led the Olivetti company out of its predicament, resigned bravely and resigned as the company's interim president. Although he had only been in the Olivetti company for three years, the sharp contrast between the operating conditions of the company before and after three years once again demonstrated Peccei's outstanding talent. At the same time, Peccei also further thought about and enriched his business experience.

In 2003, Olivetti merged with Telecom Italia group, the most prominent Italian communications group, to form an Italian telephone company. Although Olivetti had a

brilliant time in the history of electronic products, Olivetti, which has a history of 95 years and has been listed for 43 years, no longer exists.

At the end of 1962, Senators Jacob K. Javits and Hubert Humphrey from the United States of America wanted to set up an organisation aimed at stimulating private entrepreneurship in Latin America and raised funds to start a project to support the work. They invited Peccei to lead the project. Peccei was interested in this work and believed that it may become a platform for private capital investment and information exchange among Latin American enterprises. It might change the evaluation and attitude of financial and industrial circles in Europe and the United States towards the Latin American market. Peccei accepted the request, saying that he would not be paid anything, only on the condition that he was allowed to do his work in his way without interference. He is mainly responsible for the overall planning and design and fund-raising, and a manager is appointed to take charge of specific matters. In 1964, under the leadership of Peccei, Adela Investment Company was established. It was a joint-stock company with shareholders from more than 230 large companies and financial institutions in 23

countries. After the establishment of Adela, Peccei served as an Executive Committee member for ten years. During these ten years, Adela Investment Company has made great commercial achievements. When the company was founded, the registered capital was only US\$60 million. Within ten years after its establishment, Adela has provided support and services for the development of hundreds of industrial, agricultural, trade and tourism companies. The capital has reached US\$2 billion. It created more than 250,000 jobs and drove other industries in Latin America to achieve an output value of nearly US\$6 billion.

Adela's business achievements were encouraging, yet Peccei believed that the more important value of Adela is that it confirmed, as one tries to explore and find, there are always new ways to revive or even reshape the functions and actions of private enterprises in an unpredictable world. Peccei sees Adela as a successful exploration of his new path, which leads him to think that there may also be a new path and method in solving the complex problems the world is facing today.

In the eyes of ordinary people, Peccei has achieved great success in his career at this time.

Nevertheless, Peccei thought that if he only devotes his time and experience to a company or project as before, the achievements and results will be local and short-term, even ineffective, and the loss outweighs the gain. He decided to change his mission in life, set his sights on a broader field, and pay attention to the global situation and the complexity of the world.

IV

# Found the Club of Rome

The Club of Rome, which was founded in April 1968 and headquartered in Rome, Italy, mainly focuses on research, analysis and prediction upon global issues. When it was established, the aim put forward by the Club is to raise the global awareness of the public with the help of a systematic study of global issues such as population, food, industrialisation, pollution, resources, poverty, and education. International organisations and relevant departments of countries are urged to improve their systems and policies through reforms and take necessary actions to improve global governance and extricate humanity from their difficulties. Because of its negative and pessimistic views and propositions, it is called the representative of "Futurology Pessimism".

In 1965, after the challenges of various jobs and tasks and the experience of travelling around the world in the process, the 57-year-old Peccei felt that the world was facing the challenges of a series of major problems. However, modern people fail to realise the real dilemma of the world, the problems of human beings and the need to make in-depth research and appeal. Therefore, Peccei gradually began to give keynote speeches on various occasions, and he widely talked to government officials, scientists and businesses to promote his ideas. In

September of this year, Adela organised a meeting of Latin American bankers and entrepreneurs at the National Military Academy in Buenos Aires, Argentina. Peccei was invited to attend the meeting. He delivered a forward-looking keynote speech in Spanish on the theme of "The Challenge of the 1970s to Today's World." Peccei believed that the development of electronic computers will bring about a new industrial revolution, and the world is entering an era of unprecedented explosive change. If the current development model is followed, the world will face problems such as population explosion, shortage of resources, environmental degradation and division between the North and the South in the 1970s.

Peccei called for long-term thinking and a global perspective to study and address the challenges, and his speech reverberated among the audience. After Peccei's famous speech in Buenos Aires led to an important follow-up, Peccei and Alexander King (Alexander King, then Director-General of Science at OECD) and others came together to discuss the major problems facing humanity, which became known as the Predicament of Mankind, which became the beginning of the establishment of the Club of Rome. Concerning the establishment of the Club of Rome, Gunter Pauli, a current member of the

Club of Rome who awarded the title of the "Top Ten Science Communication Figures 2019" in China, wrote in his book *Crusader For The Future - A Portrait Of Aurelio Peccei, Founder Of The Club Of Rome*, "Inspired by the Lunar Society of Birmingham England at the end of the 18th Century, Peccei envisioned creating a core team of like-minded people to study ideas and approaches to global problems, so he began to look for the right people to join such a team."

In the second half of 1967, Peccei and Alexander King met for the first time, and the two had an in-depth exchange of views on global issues. Peccei found that Alexander King was familiar with policies in education, science and technology while paying close attention to the complex issues facing the world, and felt that he had found like-minded partners who, in Peccei's words, "reached an immediate consensus." As a result, the two men discussed how to study solutions to some of the major problems facing human society from the perspective of the world system. They intend to first choose people with broad horizons to negotiate in Europe and then gradually expand to a larger scope.

In April 1968, Peccei selected thirty scientists, sociologists, economists and planners

from ten European countries and invited them to a meeting in Rome. Peccei invited the Agnelli Foundation to provide funding for the meeting. The Agnelli Foundation was established in Turin in December 1966 at the initiative of the Italian Industrial Investment Corporation and Fiat S.p.A., with the aim of studying Italy's current economy, science, society and culture and promoting Italy's relations with other countries. The Foundation expressed its active support for the meeting. The meeting was held at the Lincean Academy (*Accademia dei Lincei*), one of the oldest and most prestigious European scientific institutions, in Rome. The founders of the Lincean Academy were young people who were enthusiastic about science. They were attracted by Galileo Galilei's knowledge and wanted the Academy to gain insight into the mysteries of nature with a sharp eye. Therefore, they named the Academy after the Latin name *Lynx*, a medium-sized wild cat genus known for its sharp eyes. *Lynx* gradually evolved into Lincei, which is the origin of the name of the Academy. Peccei once said that he chose to meet at the Lincean Academy, hoping that the attendees would pay attention to and see the world through the eyes of the founder of the Academy.

In order to draw the attendees' attention to global issues, Alexander King asked his colleague at the OECD, Austrian scientist Erich Jantsch, to prepare a report on world prospects for the meeting as the basis for discussion. The report analysed and predicted economic and technical issues. The participants thought that the views were unique and the content was good, but the analysis method was too complex. The ideas expressed are too esoteric and academic, and it takes time and a process to understand. In addition, due to the influence of the Vietnam War at that time, Anti-American sentiment is high, and some participants have doubts about the systematic analysis methods used in this article from the United States. The discussion at the meeting was very heated and later even turned into a heated debate. Some people were sceptical of the methodology of the report, and some people felt that the future of studying the world's prospects was bleak, and the meeting did not achieve the expected purpose.

After the meeting, Peccei invited some representatives to dinner at home to discuss the next step, including Alexander King, Erich Jantsch, Max Kohnstamm (Dutch expert on International Studies), Hugo Thiemann (General Manager of the Battelle Memorial Institute in Geneva) and Jean Saint-Geours (French expert

in Economics and Finance). Peccei and Alexander King agreed that the preparations for the meeting were not sufficient, that the participants did not know enough about the purpose of launching the meeting and the significance of the research project launched, and that some participants were "too naive or too impatient." They decided to strengthen mutual exchanges in the next year or so, continue to discuss worldwide topics, and actively invite and welcome other members to participate. At the same time, they discussed and decided to create the Club of Rome, and proposed that the club should be independent of politics and vested interest groups and be able to discuss and criticise without external restrictions. In order to maximise the free operation of the Club of Rome, it was decided that there would be no President, no secretariat and no budget. A year later, due to the increase in membership and other reasons, the operation of the Club of Rome was challenging to operate under the so-called flexible and accessible mechanism without a person in charge, hence Peccei was elected President, and Peccei's office became the Club's secretariat.

In order to prevent the management problems caused by the excessive increase of club membership, the Club of Rome decided to

limit the total number of members to 100. Members meet once a year to focus on three main issues: global perspective, long-term and cluster of intertwined problems. Since then, the Club of Rome has begun the process of thinking about the fate of humanity. According to Peccei's words, he began a "spiritual adventure". He often said, "if the Club of Rome has any advantage, it is that the Club of Rome has taken the lead in thinking and fighting on the issue of human ignorance and indifference to the self-destruction of living conditions." Peccei felt that "it is not impossible to carry out a human revolution that can change the current process of world development." Most of the Club of Rome members agree with Peccei that the study of the above three issues can prompt people to think about human problems and thus help solve the dilemma of human development. However, some people hold a different perspective. They believe that the solution to the Predicament of Mankind is minimal and applies only to smaller areas such as cities or communities. Some pessimists, such as Jean Saint-Geours and Hugo Thiemann, quickly dropped out.

In the early days of the establishment Club of Rome, members divided into several groups and went to countries worldwide to promote and introduce the Club's perspectives,

seeking support and absorbing celebrities who were willing to join the Club. Peccei personally visited Moscow, Washington, Ottawa, Tokyo and other places to have extensive discussions with people in the scientific, political, industrial and commercial circles. Although many people praised the establishment and ambitious goals of the Club of Rome, some people thought that the views of the Club were impractical and lacked confidence in solving the world's problems. Describing the situation and difficulties encountered at that time, Peccei wrote, "what we say carried no more weight than the sermon of the Pope, the advice of the Secretary-General of the United Nations, or the warning of thinkers, and many people forget it as soon as they hear it." In fact, the parade and publicity activities of the Club of Rome did not have a substantial effect. After analysing and thinking about the previous activities, Peccei believed that in order to focus people's attention on complex world problems that are far from the immediate interests, it is necessary to change the original forms of speeches and seminars and adopt means and methods that can stimulate people's imagination, and impact or even assault on the social trend of thought.

In September 1969, the Club of Rome participated in the Austrian Academy of

Sciences's annual meeting in the small town of Alpbach, Austria. By accident, Austrian Chancellor Josef Klaus heard the report of the Club of Rome, believing that the ideas of the Club of Rome were relevant to the work of the Austrian government, and he invited the Club of Rome to Vienna for further discussions with government officials. After the annual meeting of the Austrian Academy of Sciences, the Club of Rome was invited to hold a meeting in Vienna. After a lengthy discussion, the participants thought that the most effective way to achieve the goal of the Club was to use systematic thinking. The solution to the world problem is put forward through the analysis of the global model. Peccei argues that mathematical models have never been used before to depict the overall state of human society as a system and that this approach is a major innovation that will draw attention to global problems. It turned out that this decision played a key role in the future development of the Club of Rome. Hasan Özbekhan, a California cybernetics scholar who participated in the discussion, suggested using the most advanced computer technology to compress the complexities of the world into one or more easy-to-understand global models. Özbekhan drafted the framework for the project proposal and submitted a research programme entitled

"exploring the overall answer to the growing complexity and uncertainty around the world". The Club of Rome spent several months discussing in-depth the proposal submitted by Özbekhan. Peccei believes that Özbekhan's plan provides sound principles and ideas for follow-up activities, but there are also two apparent shortcomings. First, the idea of the scheme is too advanced, and the wording is obscure; second, the later research plan of the plan is slow and time-consuming. As a result, the scheme was not finally adopted.

In July 1970, the Club of Rome held its second annual meeting in Bern, Switzerland, attended by Jay Wright Forrester, a professor at the Massachusetts Institute of Technology. Forrester is the principal inventor of computer core memory and an expert in System Dynamics. Forrester put forward the idea of using magnetic core memory in computers in 1949 and successfully tested it in 1951. Since then, magnetic core memory has replaced mercury delay line memory, and magnetic drum memory commonly used in computers and become the mainstream storage equipment of the second generation of computers. It has been used for more than 20 years before the birth of semiconductor memory, which is one of the critical technological advances in the history of

computer development. He proposed that people should use the ideas of System Dynamics he studied to design and complete a set of world model system in a relatively short time to study the issues of concern to the Club. Peccei and members of the Club of Rome thought that the research scheme was feasible, so they asked Forrester to propose a specific framework for the study. Forrester spent four weeks putting forward a relatively preliminary but comprehensive mathematical model that can simulate the world situation. The Model uses five parameters, such as population and pollution, to simulate the world situation, and gives different growth assumptions for these parameters. To simulate the future development trend of the world situation, Forrester called it the World Model. After completing the World Model framework, Forrester, funded by the Volkswagen Foundation, led a team to conduct in-depth research as the head of the project, and his assistant Dennis Meadows developed and studied the model. This is the background and prelude to the first report of the Club of Rome.

Although the Club members come from different countries, different classes, different academic backgrounds, and different work experiences, Peccei and the Club members agree that humanity is facing global problems and that

global population and economic development will face a limit. To this end, Peccei, together with the Club members, carried out attention and discussion on global issues through the publication of research reports and relevant academic works, the organisation of international symposiums, and the development and implementation of the Forum Humanum project. Moreover, these discussions and even debates guide the public to think about the current situation and prospects of the world and come to a new understanding.

During Peccei's presidency, the Club of Rome publicly released seven reports and commissioned four reports. The seven publicly released reports are Donella H. Meadows et al published *The Limits to Growth* in 1972, Mezarovic published *Mankind at the Turning Point* in 1974, Jan Tinbergen et al published *Reshaping the International Order* in 1976, Ervin Laszlo published *Goals for Mankind* in 1978, James W. Botkin et al published *No Limits to Learning* in 1979, Orio Giarini published the *Dialogue on Wealth and Welfare* in 1980, and Friedrichs and Schaff published *Microelectronics and Society* in 1982. Almost all of these research reports summarise a series of cutting-edge issues and significant research achievements carried out by top experts and scholars in all fields of the

world. Although the Club of Rome especially claims in its articles of association that its reports only represent the suggestions or opinions of the researchers, it is well known that these reports are commissioned by the Club of Rome and reflect the values and propositions of the Club. They can be regarded as a joint declaration of all members of the Club of Rome and as a systematic embodiment of Peccei's thoughts.

After Peccei stepped down as president, the Club of Rome has not given up its efforts to study the Predicament of Mankind that plagued the future development of humanity and to find solutions to the world's complex problems. The Club of Rome has released a series of research reports one after another. The most recent reports are the *Come on! Capitalism, Short-termism, Population and the Destruction of the Planet* released at the 50th Anniversary of the Club to 2018 and *The Climate Emergency Plan* released at the United Nations Climate Action Summit in late September 2019. However, on the whole, of all the reports issued by the Club of Rome since its inception, the report that has the greatest influence and the most considerable attention is the report released during Peccei's presidency, especially the first report, *The Limits to Growth*, is still thought-provoking to this day.

While releasing the research report, Peccei makes full use of his connections and strong social activities in various fields, through meetings with heads of government and senior politicians and organising international conferences attended by celebrities, to publicise and convey ideas to high-level decision-makers about the responsibility and challenges of the Club of Rome to the long-term survival of humanity. Of these, the most famous was the Salzburg Conference in 1974.

In 1973, Austrian Chancellor Bruno Kreisky and Peccei discussed a small, informal meeting of senior politicians on how to solve the Predicament of Mankind. In order to prepare for the meeting, Peccei spent nearly half a year in Canberra, Ottawa, Dhaka, Algiers, Stockholm and other places to invite heads of government of relevant countries to attend the meeting. What Peccei used to say at that time was, "if you are not a good citizen of the world, then you cannot be a good leader of your country." Thanks to Peccei's tireless efforts, the meeting was successfully held in February 1974 at Schloss Klessheim near Salzburg, Austria. The meeting was attended by the President of Senegal, the President of Mexico, the Prime Minister of Sweden, the Prime Minister of Canada, the Prime Minister of the Netherlands, the former

President of Switzerland, as well as personal representatives of the President of Algeria, the Prime Minister of Pakistan and the Prime Minister of Iceland, as well as Peccei and nine members of the Club of Rome.

Peccei later said that in order to prevent the meeting from becoming a forum for statements of national sovereignty or ideological positions, he did not invite the major European powers and the two superpowers of the time, the United States or the Soviet Union. In order to create a relaxed discussion atmosphere for the leaders participating in the meeting so that the participants can speak freely, the meeting requires participants not to be accompanied by public servants. This is a genuinely informal meeting, in which heads of state and dignitaries have lifted the pressure and constraints of meeting or discussing on formal occasions and can easily discuss worldwide topics such as the Predicament of Mankind from different angles. Participants have gradually reached a consensus that they must assume collective global responsibility. Peccei believed that the Salzburg informal meeting, held outside television and cameras, had been a success and has had a significant impact on the subsequent development of the Club of Rome. After the Salzburg meeting, Peccei quickly sorted out and

condensed the meeting results, inviting Tinbergen to write *Reshaping the International Order*, the third report of the Club of Rome.

Under the coordinated lobbying and instigation of Peccei, informal meetings of heads of state were held in West Berlin in 1974 and Guanajuato in Mexico in 1975. In April 1976, a conference on *New Horizons for Mankind* was held in Philadelphia, USA. In May 1980, an international conference on "The Establishment of a New International Economic Order" was held at United Nations headquarter with institutes such as the United Nations Institute for Training and Research. In October 1982, a conference on the theme "Towards the 21st Century: Global Issues and Human Choices" was held in Tokyo, and a conference on the theme "Food for 6 Billion People" was held in Budapest. In September 1983, a seminar on world food issues was held in Budapest. The last international conference organised by Peccei was the conference on the theme "Development in a world of peace" held in Bogota, Colombia, in December 1983. The meeting was co-organised by Peccei and the president of Colombia. At that time, Colombia was in a state of instability. Political divisions and economic recession were severe, and the meeting had a profound impact on Colombia and the participants.

After 1984, the Club of Rome inherited Peccei's successful practice of organising international conferences to promote the Club's ideas on the international stage. For example, a conference entitled "Can Russia's Tomorrow Be Stable?" was held with Moscow State University in 2000. In 2008, an international conference was held in Winterthur, Switzerland, entitled "Managing the Challenges Brought by the Interconnections between Climate Change, Energy Security, Ecosystem and Water Resources". In 2009, a conference entitled "Adopting Synergistic Strategies to Address the Environmental and Economic Challenges of the 21st Century" was held in Vienna. In July 2020, the Club of Rome, together with the Nature for Climate (N4C) and the World Economic Forum (WEF) jointly organised a series of London Climate Action Week meetings with the theme of "Bringing a Positive Natural Recovery to Humanity, Economy and Climate" to support the *Paris Agreement*. It is not difficult to see that the practice of organising international conferences initiated and led by Peccei is an important experience in ensuring the Club of Rome's long-term reputation and global reputation.

In 1967, Peccei gave academic lectures on "The Necessity of Global Planning" at the Siberian Branch of the Russian Academy of

Sciences. At that time, most of the participants were young scientists in their twenties who were responsible for planning the development of Siberia. They very much agreed with Peccei's thoughts and had in-depth and repeated conversations with Peccei after the lecture. The later development history of Siberia proved that these young scientists played a huge role in the development of Siberia. Because the development plan they planned and designed was scientific and reasonable, Siberia was built into the largest energy production and supply base in the Soviet Union in just over a decade. To a certain extent, Peccei realised that young people may be the main force in solving the Predicament of Mankind.

With age, from 1979 onwards, the 71-year-old Peccei devoted more and more energy to a new project: the Forum Humanum. He feels that the world's greatest hope lies in young people. His goal for the Forum Humanum is to build a network of young scientists from the first, second, and third worlds to solve humanity's pressing problems. However, his colleagues at the Club did not follow and participate in the work as enthusiastically as Peccei, so he always pushed forward alone and persistently. As always, he traveled and lobbied to raise funds for the project, and set up groups

of young scientists in Rome, Madrid, Geneva, Rio de Janeiro and Buenos Aires.

It is worth celebrating that the Forum Humanum project advocated by Peccei has attracted the attention of the United Nations. In 1979, the 34th session of the United Nations General Assembly designated 1985 as the International Year of Youth with the theme of "Participation, Development, Peace." at the initiative of Romania. While Peccei's Forum Humanum Project is very much in line with the theme of the International Year of Youth, coupled with the international influence of Peccei and the Club of Rome, the project is supported by the International Year of Youth.

At the beginning of the establishment of the Club of Rome, the daily operation of the Club was managed by Peccei and his two secretaries in his office in Italconsult, headquarters in Rome. Nominally, the Club also had offices at the Battelle Memorial Institute in Geneva and the Japan Techno-Economics Society (JATES) in Tokyo, but these two institutions were used only for correspondence or organising meetings. In July 1982, after the change of leadership of Italconsult, Peccei received a notice to vacate the office. In the

subsequent process of organising office materials, he handed over important documents and valuable historical data to Umberto Colombo, who was the Chairman of ENI at the time. The full name of ENI is Ente Nazionale Idrocarburi (National Hydrocarbons Authority), a national holding company established by the Italian government on February 10, 1953 to ensure domestic oil and gas supply. However, for some unknown reason, many files of the Club of Rome were lost. This is a very regrettable result.

When Peccei was President of the Club of Rome, the Club was actually a "non-organisation" with no formal organisational structure, no secretariat nor even a financial budget. Peccei's intentions were good, but it also made the guiding ideology of the Club not clear enough. Because the Club lacks an overall and systematic guiding ideology, the research reports released by the Club since 1976 have mostly focused on certain aspects, rather than global analysis, which greatly reduced the influence of these reports. Therefore, the Club of Rome in this period is also considered by later generations to be at a low ebb. On March 14, 1984, Peccei died of a heart attack in Rome. Peccei's death dealt a heavy blow to the Club, and some members even questioned whether the Club should continue to exist. In July of the

same year, the Club held a General Meeting in Helsinki, Finland. Although the vast majority of members favoured keeping the Club, they also advocated that to increase the vitality and efficiency of the Club, the loose operating mechanism of the Club when Peccei was President should be reformed.

Alexander King was elected President of the Club at this meeting. After serving as President, Alexander King rebuilt the Club and adopted a more participatory mode of operation. The first was to set up a management team in the Club, which contained a twelve-member Council and an eight-member Executive Committee. The former was responsible for the overall planning and development plan of Club activities, while the latter was responsible for the daily affairs of the Club. The members of both teams were appointed for a term of three years and could be re-elected once. At the same time, Alexander King proposed to the Club Executive Committee to add a Secretary-General to assist the President in his work. The second is to invite a group of international celebrities who are concerned about the future of humanity to serve as Honorary Members of the Club, including the Queen of the Netherlands, the King of Spain, the former U.S. President Jimmy Carter, the General Secretary of the Communist Party of the Soviet Union

Mikhail Gorbachev, the former German President Richard von Weizsäcker, the former Czechoslovakia President Václav Havel and 1979 Nobel Laureate in Physics Abdus Salam.

In 2008, 40 years after the establishment of the Club of Rome, the headquarters moved from Rome to Winterthur, Switzerland, in order to facilitate the office and reflect the neutrality of the Club.



Figure 1: Peccei spoke as the elected President of the Club of Rome.

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International  
Institute for  
Applied  
Systems Analysis

After Peccei's speech in Buenos Aires, the content of his speech was widely circulated in countries around the world and attracted the attention of the United States, the Soviet Union and other countries. The English version of the speech was circulated in some important conferences in Washington. The then US Secretary of State Dean Rusk appreciates the content of Peccei's speech very much. The Deputy Chairman of the Soviet Union State Committee for Science and Technology Dzhermen Gvishiani (the son-in-law of Alexei Kosygin, Chairman of the Council of Ministers of the Soviet Union, member of the Political Bureau of the Central Committee of the Soviet Union) participated in the Annual Meeting of the Advisory Committee on the Application of Science and Technology for Development (ACAST). While flipping through the magazine in the airport terminal, Dzhermen Gvishiani stumbled across a report about Peccei's speech at the Buenos Aires conference. He was excited about Peccei's ideas and came up with the idea of inviting Peccei to meet in the Soviet Union. However, Dzhermen Gvishiani did not know Peccei, so he asked ACAST's American colleague Wilson for help, but Wilson did not know Peccei, so he asked Alexander King for help. Unfortunately, Alexander King did not know Peccei either, but he finally found Peccei

through the Italian Embassy in Paris and conveyed Dzhermen Gvishiani's invitation to Peccei. It eventually led to a meeting between Gvishiani and Peccei in Novosibirsk, which became an important starting point for establishing the International Institute for Applied Systems Analysis.

At the beginning of 1966, Peccei continued to hold a series of lectures in Washington on the theme of "The Challenges of the 1970s to Today's World". The main content of the lecture was the Buenos Aires lecture in 1965 and further appeals. To avoid a serious global crisis in the 1970s, we need to pay attention to two aspects of work at present: First, all countries in the world should unite and work together to solve problems. Second, to make full use of system analysis and modern technology when solving world problems. In the lectures, Peccei proposed to organise an international joint study to be initiated by non-governmental organisations such as the Ford Foundation. Hubert Horatio Humphrey, then vice president of the United States, very much agreed with this proposal and wrote to McGeorge Bundy, who served as United States National Security Advisor to Presidents John F. Kennedy and Lyndon B. Johnson, suggesting that the United States should set up an international joint

research institute to support it. In December 1966, McGeorge Bundy, who had been the President of the Ford Foundation, held a press conference to announce that President Lyndon B. Johnson had appointed him as the United States representative to promote the establishment of an international joint research institute.

To establish the institution, McGeorge Bundy visited key figures from Western European countries and the Soviet Union and held the first preparatory meeting at the University of Sussex in England in 1968. As the Federal Republic of Germany was invited to the meeting instead of the Democratic Republic of Germany, the Soviet Union was absent from the meeting to express its dissatisfaction, resulting in little success, with no results other than the election of an Englishman as the convener of the subsequent meeting. Peccei believes that as the meeting is official, it is impossible to avoid sensitive issues such as participating countries, and it may be better to meet in a private. To this end, he personally invited McGeorge Bundy and the Deputy Chairman of the Soviet Union State Committee for Science and Technology Dzhermen Mikhailovich Gvishiani to meet in Vienna. The meeting achieved the desired results. They reached a consensus on establishing an international joint research

institute and named it International Institute for Applied Systems Analysis (IIASA). After the meeting, a draft of the institute's functions was drafted and sent to relevant people in various countries for comments.

In the process of the establishment of the International Institute of Applied System Analysis, there are often a variety of specific problems, most of which involve political, scientific and other factors of many countries, which are challenging to solve. For example, the voting rights scheme. The ideal scheme is to avoid the use of veto power when Eastern and Western countries diverge on certain issues. However, due to the lack of experience of the convener selected for the first preparatory meeting in dealing with these issues, the formation work progressed slowly. In 1971, the third India-Pakistan War broke out. At that time, the two superpowers, the Soviet Union and the United States, each supported one side, leading to increasing international tensions. Peccei believed that the significance of establishing the International Institute of Applied Systems Analysis under this situation is more prominent. He invited the President of the United States National Academy of Sciences (NAS) Philip Handler and the Deputy Chairman of the Soviet Union State Committee for Science and

Technology Dzhermen Mikhailovich Gvishiani to meet in Vienna. The meeting reached agreement on many details of the establishment of the International Institute of Applied Systems Analysis.

Driven by Peccei, the International Institute of Applied Systems Analysis (IIASA) held its Inaugural Meeting in London in 1972. With the Austrian government's support, the institute settled in Laxenburg castles, 15 kilometres south of Vienna. Laxenburg castles, which used to be a summer resort and hunting place for the Habsburg family. The castle was built in the Theresian era in the mid-18th Century and is known as the most beautiful English garden in Europe. The establishment of IIASA marks the establishment of unique communication channels between the Eastern and Western camps represented by the Soviet Union and the United States, so the establishment of IIASA has a solid political colour, and the two sides began to take science as a link, cross the gap of the Cold War through academic exchanges, and jointly devote themselves to the study of global issues. After the collapse of the Soviet Union and the upheaval in Eastern Europe in the 1990s, IIASA once wanted to "retire with success", but scientists in both the East and the West called for

it to remain. In 1994, IIASA held a ministerial meeting and re-endowed IIASA to apply system analysis to study global problems under the new situation. Since then, the political colour of IIASA has gradually faded, mainly engaged in air quality and Greenhouse Effect, ecosystem and management, energy research, new technology transformation, water resources, population issues and other fields of research work. In addition to the original founding members, some countries in the Americas, Africa, Asia and Oceania have joined. At present, IIASA has 24 member states and more than 300 regular employees. After years of research and accumulation, IIASA has a robust research ability and produced many research results.

VI

# Works and Advocacy

During Peccei's presidency, the Club of Rome released seven public reports. During this period, Peccei also published several books, such as *On the Edge of the Abyss* in 1969, *The Human Quality* in 1977, *A Hundred Pages of the Future* in 1981, and *Alarm Bell for the 21st Century* in 1984. From the perspective of time, many connections exist between Peccei's works and the reports issued by the Club of Rome in the corresponding period. From the perspective of the ideological system, the reports issued by the Club of Rome have deepened and expanded the views in Peccei's works in many aspects. Peccei's works and these reports confirm and complement each other and have become valuable historical materials for thinking about global issues from the 1960s to the 1980s.

As early as 1959, Peccei wrote a pamphlet without a title to introduce his thinking on global issues to friends in the government, business community and international organisations. Peccei's ideas were relatively preliminary at that time. The pamphlet did not attract the attention of his friends. In 1969, the famous American journalist Mario Rossi found Peccei's pamphlet very enlightening and suggested expanding and improving the pamphlet contents and formally publishing it. This because Peccei's early work, *On the Edge*

*of the Abyss*. The book describes Peccei's understanding and expectations for the future, mainly reflecting Peccei's worries about the future. He believed that the world is facing an unprecedented threat and a great social development crisis. This is also the first time that Peccei has openly raised the problem of the Predicament of Mankind that the world is facing. However, Peccei's book is still not taken seriously. It was not until the release of the Club of Rome's first report, *The Limits to Growth*, that people noticed that *On the Edge of the Abyss* had warned people of similar crises. However, after that, few readers worldwide knew about the *On the Edge of the Abyss*, and no one would have expected it before releasing the later influential *The Limits to Growth*, while its initial motivation is to put forward a model and method that can describe the world's problems and analyse and predict the future development trend of the world. *The Limits to Growth* was officially published at the Smithsonian Institution in Washington on March 12, 1972. The report selected five elements that are more important to social development, namely population, food production, industrial economy, consumption rate of non-renewable resources, and environmental pollution. Considering that these five elements all increase exponentially and will double every once in a while, and the growth

rate and range are getting higher and higher. However, the area of arable land and freshwater, the total amount of non-renewable resources, and the capacity to accommodate environmental pollution needed for food production are limited, which cannot support the exponential economic growth of human society. The report concludes that if the current growth trend remains the same, global economic growth will reach its limit within 100 years. *The Limits to Growth* caused a sensation immediately after it was published. It was translated into 37 languages and sold 12 million copies, and the Club of Rome appeared on the world stage overnight.

*The Limits to Growth* has caused an uproar in various countries, and the debate over the limits to growth is very fierce and protracted. Both scholars and the general public have different opinions on the methods and conclusions adopted in *Limits to Growth*. Proponents believed that it poses a tit-for-tat challenge to the infinite growth theory and outlines the possible future development of humanity. Opponents' opinions came from various sources. The critics of the economics community believed that the author of *The Limits to Growth* only considered the material system and did not fully consider the role of the price mechanism in the research

process. Critical experts in the scientific and technological community believed that the research report ignores the potential of scientific and technological innovation in solving problems facing the world. The Dutch published a book to express their opposing views to the Club of Rome. A group of researchers at the Science Policy Research Unit at the University of Sussex, published *Thinking about the Future; A Critique of The Limits to Growth*, and later Cole H.S.D. edited and published the book in the United States as *Models of Doom: a critique of The Limited to Growth*, criticising the Club of Rome's developing view. Although the *The Limits to Growth* is controversial, it is undeniable that it is groundbreaking in many ways. Firstly, the report is the first global model established by independent institutions rather than government research institutions. Secondly, the findings of the report are geared towards society and the public, not limited to academia and researchers. Thirdly, the report's clear link between economic growth and environmental consequences for the first time is a fundamental shift in the history of human development. Finally, the report provides a comparable model for debate between proponents and opponents of growth and a reference framework for subsequent global models.



Figure 2 : Peccei presides over the Annual Meeting of the Club of Rome.

Although the debates caused by the Zero Growth Theory in the world are in the expectations of the Club of Rome, many doubts and criticisms have also given the club a great motivation to move forward and further improve its theory. In order to revise some controversial

conclusions in the Zero Growth Theory and to think more deeply about the nature of the Predicament of Mankind, Peccei commissioned American scholar Mihajlo Mesarovic and German scholars Eduard Pestel jointly submitted a report called *Mankind at the Turning Point* in

1974. The report believed that the growth mentioned in *The Limits of Growth* is a kind of "non-variant growth" that only considers an increase in quantity. All parts of human society have evolved into an organic whole that is functionally interdependent. The growth of any part is closely related to other parts. Therefore, the world should enter the path of organic growth, through the organised interconnection within the system, to contain any part of the growth that will harm the overall interests. The report used computer-based design methods to establish a new world model that is different from the past. The model divides the world into ten regions and five levels of world system behaviour, and organically connects economic, social, political and other factors, advocates cooperation, avoids conflicts, and establishes a new international economic order.

The report's official release marks the transformation of the Club of Rome's thinking on development from the theory of Zero Growth to the theory of Organic Growth. The theory of Organic Growth helped people better understand the nature of the Predicament of Mankind. At the same time, it also put forward the ways and methods to solve the Predicament of Mankind, such as rebuilding the world system and cultivating global consciousness. For this reason,

*Mankind at the Turning Point* has attracted the attention of some countries, and the report has also been listed as a document of the 31st Session of the United Nations General Assembly because of the innovation and applicability of its ideas.

Based on the preliminary proposal of *Mankind at the Turning Point* to establish a new international economic order, the Dutch economist Jan Tinbergen submitted a report entitled *Reshaping the International Order* to the Club of Rome, further analysed the causes of the Predicament of Mankind, and concluded that the unreasonable international political and economic system and structure are important factors. The best way to solve the Predicament of Mankind is to make effective use of resources. However, the reality is that the Third World countries are increasingly dependent on the economies of industrialised countries and more lack of capital and technology than in the past, therefore it is more urgent to change the international order. The Report further puts forward the main problems and plans that need to be solved to reshape the international order.

Although the first three reports released by the Club of Rome use different models and

focus on different angles, they have one thing in common, that is, they jointly discuss that the world is facing the Predicament of Mankind and have successfully aroused a global debate about the concept of development. Thus achieving the goal of "making people face up to the widespread understanding of the world crisis" written by Peccei in his book *On the Edge of the Abyss*. However, the first three reports did not explore how to solve the Predicament of Mankind. Peccei published the book *The Human Quality* in 1977. In his book, he clearly points out that the only way out of the Predicament of Mankind is to carry out a Human Revolution and improve human quality. He then discussed the six major missions of improving human quality (external limits, internal limits, cultural heritage, world community, human living environment, and production organisation). Furthermore, the concept of development in the book advocates the realisation of the concept transformation from growth to development.

Under the guidance of Peccei's idea of improving human quality, the Hungarian philosopher Ervin Laszlo and his team submitted a report entitled *Goals for Mankind* to the Club of Rome in 1978, the fourth report released by the Club of Rome. The report takes the opportunity of investigating the new goals of

humanity, and then studies the role of human factors and roles in solving global problems. Moreover, the improvement of human quality and moral quality are regarded as the fundamental way to solve the Predicament of Mankind. Peccei's thought on improving human quality has been inherited, continued and developed.

Although the *Goals for Mankind* discusses the reasons, significance and necessity of improving human quality, it does not deeply explore the methods and ways to improve human quality. Since there is such a close relationship between solving global problems and improving human quality, how can human quality be improved? After repeated discussion, the Club of Rome finally found a way to improve the quality of people through learning. With the support of Peccei, the Club of Rome has organised three seminars on the theme of learning: Learning and Global problems, Strengthening Learning in Contemporary Society, and Research on Learning. Peccei invited Botkin to summarise and comment on the results of the three meetings, resulting in the *No Limits to Learning* report, which is the fifth report released by the Club of Rome. *No Limits to Learning* first discussed the necessity of carrying out a learning revolution that humanity's exploration of the

future development of society should be based on a broader vision and imagination. All these need to constantly improve people's quality and fundamentally carry out a revolution to improve people's quality. Subsequently, the report distinguishes two different types of learning models: innovative learning and maintenance learning. It points out that only by innovative learning can human beings explore their inner potential and get rid of the current predicament of human beings to create a better future. The publication of the report means that with the deepening of Peccei's thinking on solving the world's problems, the research focus of the Club of Rome has shifted from the limits of external material growth to social problems and human problems.

Peccei wrote in *The Human Quality*, "If economic growth is the country's main goal, then it may endanger the fairness of distribution", "the concept and conditions of fairness must penetrate human society", he called for "human beings must learn to live in harmony with the external ecological environment" and "to make overall plans for the global ecological environment." Affected by Peccei's ecological concept, Giarini submitted a report entitled *Dialogue on Wealth and Welfare* in 1980, which pointed out that social and economic life must

recognise the significance and value the natural environment. The study of economics must consider the natural environmental factors, and economics and ecology are closely related. Traditional economics, which only focuses on economic growth and gross national product growth, is not a real science about wealth. The new economics must consider the theory of economic growth and human ecological values. The report believes that the quality of natural materials such as "gifts and heritage" is directly related to the wealth and welfare created in human economic life. Therefore, one of the solutions to the Predicament of Mankind is to adapt to the development requirements of the times and establish the value of Ecology-Economics that takes ecological factors into consideration.

If Peccei wrote *On the Edge of the Abyss* to draw people's attention to the Predicament of Mankind and wrote *The Human Quality* is to help people find solutions to the Predicament of Mankind, then Peccei's third book, *A Hundred Pages of the Future*, is, to some extent, designed to boost people's confidence in solving the Predicament of Mankind. Peccei wrote in the Preface, "What is written in this book, in fact, as long as one can use all kinds of resources wisely, the most important thing is human resources,

then human beings can get rid of the crisis and almost realistically build the future world according to their wishes." This reflects that Peccei, who has always held a limited view on the development of human society, tried to adjust some of the ideas of his pessimists in his later years. In his book, Peccei expressed many unique insights on how to make good use of human resources to free humanity from crises and create a new future. For example, he proposed "to implement global policies and strategies, and bring the world into a manageable state, before human learns how to govern the world, human must first learn how to manage ourselves..." He said that the book uses about 100 pages to talk about the future and the present (the future is the continuation of the present), so it is called *A Hundred Pages of the Future*. In the book, Peccei also gives much care to the younger generation. He wrote on the title page of the book that, "This book is dedicated to people of all ages or spiritually young — they are the only hope for the future of mankind." Perhaps this explains why Peccei has high hopes for the Forum Humanum project mentioned above.

In the social thoughts at that time, the vast majority of the public, scholars and even government officials extolled the progress of science and technology, believing that the

development of science and technology was conducive to the promotion of productive social forces, the improvement of public welfare and the enhancement of national strength. However, Peccei is worried about the many problems that the modern technological revolution has brought to human society and the greater risks that may be caused in the future. He believes that a correct evaluation of the development of science and technology will significantly impact the future development of human society. In his book, Peccei wrote that the 1980s is a decisive decade for the revival of the human cause, and if this opportunity is missed, human society will inevitably develop from a gradual decline to a sharp collapse. Therefore, in *A Hundred Pages of the Future*, Peccei sharply criticises the adverse effects of science and technology. He strongly opposed the view that the development of science and technology can solve all social problems, and pointed out that the scientific development at that time existed only for those in power. Poor and weak countries were unable to enjoy the benefits of scientific and technological progress, and a small number of disciplines were not taken seriously. Peccei wrote in his book, "The most important issue that needs to be paid attention to and solved most is to make people alert to the negative effects of science and technology in their

ideology and to make their values and social-political and institutional arrangements meet the needs of the development of science and technology so as to take timely and effective measures to avoid the adverse consequences of the development of science and technology, especially in microelectronics and biotechnology, which may pose a more significant threat."

In fact, Peccei was very concerned about the impact of scientific and technological development a long time ago. In 1979, at the initiative of Peccei, the Club of Rome held a special symposium on the impact of microelectronics technology in Berlin, Germany. After the symposium, it was decided to set up a research group, led by Gunter Friedrichs of the Federal German Metal Workers Union and Adam Schaff, a well-known Polish sociologist, to guide the development of the research project. The Club held another symposium in Salzburg, Germany, in 1982, at which Schaff and others formally submitted the research group's report *Microelectronics and Society*, which is the seventh report publicly released by the Club of Rome. The report believes that microelectronic technology can be called the second industrial revolution, a brand-new change that will once again strengthen or even completely replace the

role of the human brain with machines (chips, integrated circuits) and will undoubtedly have an inestimable impact on human society. Therefore, humanity needs to make plans in advance and actively take measures to ensure that the development of microelectronic technology will increase rather than lose profits for humanity. Obviously, the theme of *Microelectronics and Society* extends, expands and refines Peccei's views on the development of science and technology and demonstrates Peccei's propositions on improving human quality from the perspective of science and technology. It makes Peccei's thoughts on science and technology more enriched, completed and systematised.

In 1984, Peccei published a dialogue collection between him and Daisaku Ikeda, a well-known Japanese scholar, *Alarm Bell for the 21st Century*. This book systematically presents Peccei's exploration of the current situation and prospects of humanity. The outline of the book once again shows Peccei's four main aspects of ideas and propositions in his works such as *On the Edge of the Abyss*, *The Human Quality*, *One Hundred Pages for the Future*.

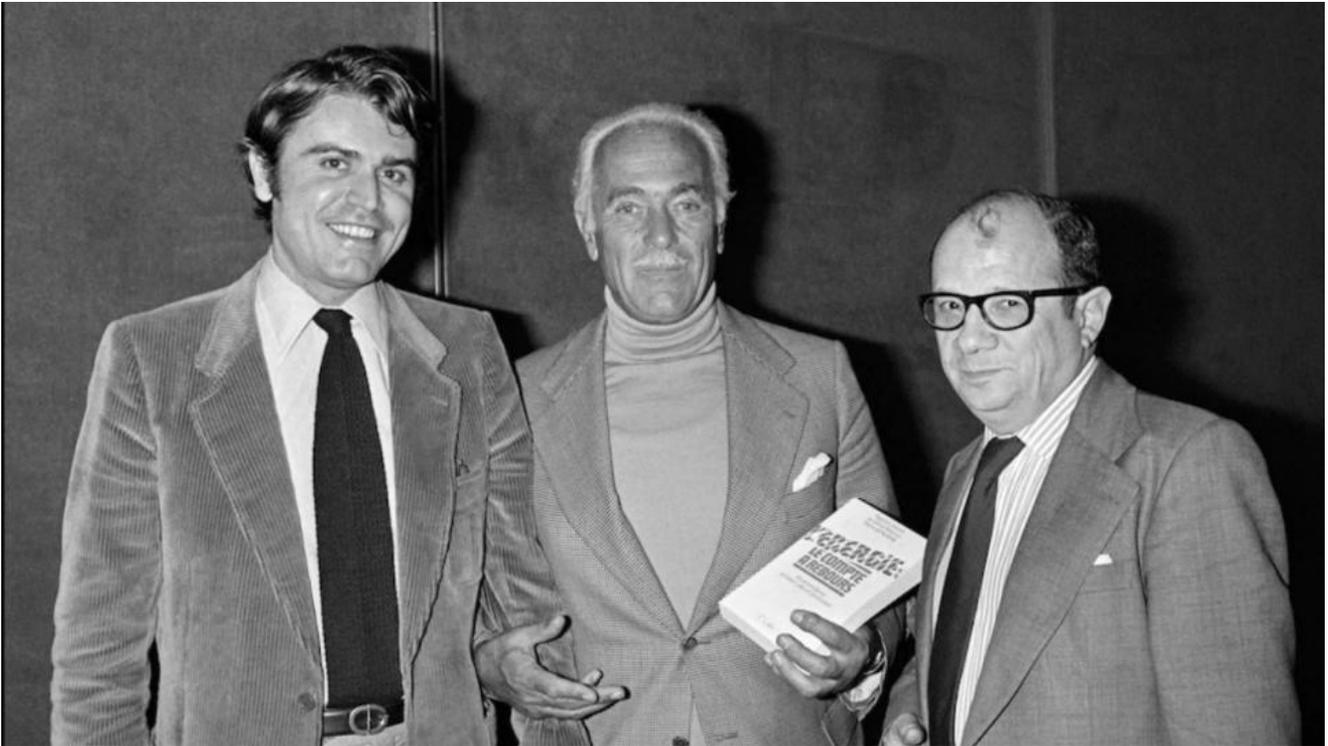


Figure 3 : Peccei took a photo with Economist Thierry de Montbriar and Mathematics Professor Mihajlo Mesarovic.

## **1. Predicament of Mankind and Concerns About the Future of Humanity**

In Peccei's perspective, in the past, due to the limitations of technology and ability, there was nothing people could do about the future. Yesterday, today and tomorrow were just boring changes of time, and the future was the continuation of the past. Now, due to the significant improvement of people's cognitive level and the rapid development of science and

technology, human beings seem to have become the master of the world and the master of the future and have the ability to change the future.

Peccei believes that the future depends on the current behaviour of all the countries in the world. Therefore, the future of humanity in common and the destiny of the world is the same. Despite cultural and institutional differences among countries, the trend towards a common destiny for all humanity is irreversible.

Even if the superpowers with their military and economic strength are strong enough to impose their will on other countries, they will not be able to stop the process of a world community with a shared future. To this end, humanity has the responsibility and obligation to plan and change the future jointly, and the shared aspirations, knowledge and capabilities of the world are the keys to a better future. He believes that due to the influence of the scientific and technological revolution and economic globalisation, the world is faced with ten major problems: First, the population explosion. The rapid increase in the population of the Earth is a major problem that requires special attention, at the same time, it not only aggravates the current problems but also gives rise to new-world problems. Second, the blind development. The current development model lacks attention to basic human needs and overall planning, resulting in one fourth of people in the world living in poverty. Third, the biosphere destruction. The Earth's ecosystem is invaded, and the four major organisms that sustain human life-cultivated land, pastures, forests and oceans have been severely plundered and seriously damaged. Fourth, the economic crisis. Financial chaos, inflation, increased unemployment, excessive consumption, waste of resources and depletion of energy have further aggravated the

morbid state of development. Fifth, the arms race. Military expenditure has reached a record high, and the development of weapons has not only been unrestrained, but its ability to destroy has continued to increase. Sixth, the social issues. Human material desires and selfishness lead to social alienation, apathy, violence and crime, terrorist activities, and genocide continue to occur. Seventh, the state of scientific and technological development. The development of science and technology has deviated from the major needs of society, scientific and technological achievements have not served the public very well, and some scientific and technological achievements and their benefits have become the self-interests of some groups. Eighth, the institutional rigidity. The political system is out of touch with social development, and is unable to solve the complex problems facing the world. Ninth, the East-West opposition and the North-South divergence. It shows that the major countries of the world and their rulers are not yet politically and psychologically mature. It is challenging to promote the management and governance of the world effectively. Tenth, the loss of morality and leadership. The moral character and ideological beliefs of those in power are not commensurate with their status and powers, and they do not pay enough attention to the interests of the people.

Peccei believes that the above ten factors are interrelated and interact with each other, forming a group of "complex world problem", thus causing the so-called the "Predicament of Mankind". Peccei's view of the future of human race is generally pessimistic. He believed that human race has developed a huge and insatiable view of consumption and possessiveness. This would make human race continue to ask for natural resources and produce more material wealth for human consumption and enjoyment, resulting in a vicious circle of "resources consumption - life enjoyment - resources consumption".

## **2. The Understanding of Development**

Peccei's Neo-Humanitarianism thought breaks through the limitations of his predecessors and raises the relationship between man and nature to the height of the overall development of humanity. It is a new thinking on solving the Predicament of Mankind and a new construction of future social ideas. His understanding of development has brought changes to the human way of thinking and laid

the ideological foundation of sustainable development.

In the face of increasingly serious global environmental problems, Peccei believes that the leading cause of global environmental problems is that people blindly pursue economic growth. In Peccei's view, human development has gone through four stages: the simple pursuit of quantitative growth, self-reliant growth, steady growth and organic growth. Peccei further pointed out that development needs to be more equitable so that everyone's demands can be reasonably met so that development instead of growth has become a top priority and must become a global cause. In Peccei's view, the trend of the integration of the world is inevitable, and humanity has entered the era of global empire, so one should analyse and solve problems from a global perspective. The Predicament of Mankind is a major problem faced by the whole world, which needs to be solved hand in hand. For individuals, one should establish a global concept and take the initiative to participate in the cause of all humanity. For the Third World countries, one should change the fragmented state and establish a collection of regional countries so as to strive for independence and development. For the whole world, the political system should be reformed

and a world community should be established. In terms of natural resource management and utilisation, Peccei advocated strict global management of natural resources, restraint on the lifestyles of developed countries, and strive to produce as much energy as possible from renewable resources. Gradually turn these alternative renewable resources into the main energy source, and do everything possible to save non-renewable energy, so as to establish a balance between man and nature.

Peccei regards social justice as the primary goal of Human Revolution and believes that social justice is the foundation of society, and every member of the society should equally enjoy the benefits created by the whole social system. Without social justice, the process of global integration will lack external guarantees, and peace, security, freedom, and development will all come to nought. Peccei advocates that one should adhere to the unity of intra-generational equity and inter-generational equity. In intra-generational fairness, citizens have the right to enjoy life security equally, and the country has an obligation to provide citizens with minimum living security. All countries should correctly handle the relationship between economic growth and social justice, and the economic growth should not be taken as the only

evaluation index. In terms of inter-generational equity, there should be equal rights between current and future generations, and issues should be considered from a long-term and holistic perspective to ensure that the development and needs of each generation can be met.

Peccei experienced war and prison when he was at a young age, and when he got older, he had to deal with the threat against world peace caused by the confrontation between the United States and the Soviet Union. He believed that "fighting for justice is often accompanied by violence, but justice is ultimately achieved by non-violence." In Peccei's view, the growth of material power has created conditions for the growth of violence. The current violence is reflected in the military, dictatorship, trade war, economic colonialism and many fields, are the embodiment of violence. Peccei believed that how to reduce and eliminate violence and conflicts among nations, nations, and races, and seek peaceful solutions to issues, are problems that human must think about and the inescapable responsibility of humanity. Peccei advocated that all countries should exclude all military or non-military violence from human development. The intensification of global interdependence will lead to an increasing number of contradictions, frictions and conflicts among countries in the

political, economic, trade, cultural and other fields. In these areas, there is a need to strengthen the sense of peace and use various non-violent means to resolve all conflicts in human society.

### **3. Neo-Humanitarianism**

Peccei believed Neo-Humanitarianism is the guiding ideology that must be followed in carrying out the human revolution. Only on the basis of Neo-Humanitarianism can one's life value and inner world be transformed, and only the Neo-Humanitarianism can raise the quality and ability of people to the level needed to solve global problems. Peccei indicated that traditional Humanitarianism over-emphasises human subjectivity, emphasises that development should meet human needs, and emphasises man's domination of nature, which leads to putting nature under human when dealing with the relationship between human and nature. Considering only tangible benefits and material rewards, overexploitation and destruction of nature have led to a series of global environmental problems, triggering a crisis of human survival. Neo-Humanitarianism is indeed

not Peccei's invention and patent. As early as the middle of the 19th Century, Marx criticised the abstract illusory Humanitarianism in pursuit of human value and put forward the Neo-Humanitarianism with the purpose of survival and the way of practice. Iwan Timofejewitsch Frolov of the former Soviet Union, Manabendra Nath Roy of India, Jacques Maritain of France, and Erich Fromm of the United States all put forward the ideas and viewpoints of Neo-Humanitarianism.

Peccei's Neo-Humanitarianism critically inherited the concern for human in traditional Humanitarianism and discarded its narrowness and incompleteness. It shifts the centre of development from paying attention to the external needs to improving the internal quality of human. From paying attention to what human beings want, to focusing on what human beings can do, how to do it, and how to guide them to do it, so as to coordinate the inner strength of human beings with the outer performance. The Neo-Humanitarianism theory is based on the harmonious development of man and nature, emphasises respect for the laws and limits of nature, advocates that mankind itself uses and protects nature rationally through organic growth and quality improvement, and promotes the harmonious coexistence of man and nature.

Peccei pointed out that human beings have the capability to conquer the Earth, but they are not equipped with the quality to manage the Earth. In Peccei's view, human beings contain incredible abilities that have not yet been developed or used. The development of potential human ability is the basis for the progress of human society and refers to the premise of realising the harmonious development between man and nature. The primary goal of the human revolution is to fully develop people's potential abilities so as to promote social and economic development through the improvement of human quality, primarily through the improvement of cultural quality, thus establishing an ecological foundation for economic activities. Peccei advocates that no talents or wealth can be prior to the development of human ability. Peccei believes that the main way to realise the Neo-Humanitarianism lies in developing education and promoting learning ability. The times has put forward higher and higher requirements for the quality of human beings, and at the same time has given more arduous tasks to teaching and learning. In Peccei's view, the most important thing to lay the cornerstone of a country's development and open up a country's future is education. All countries should first devote their efforts to education. When developing education, one is to conform to the national conditions of

the country, so as to maintain and develop the cultural uniqueness of each country. The second is to increase the proportion of humanities, strengthen education in how to think as a whole, how to make inferences about the essence, how to dialectically evaluate and judge science and technology, and emphasise the role of learning. Peccei believes that learning should be conducted by people actively, which refers to preparing for new situations, thus improving people's ability to lead. However, education is different from learning. Even the highest level of education will be lack the originality of education if learning is conducted without a notion of reality. Thus, Peccei advocates innovative learning to improve people's quality of mastering new abilities.

#### **4. Advocate Human Revolution**

Peccei once stated that to solve the Predicament of Mankind, one needs to start with a global perspective and then find a way that can help clarify the core of the entire human system. The entry point is the Human Revolution. In his view, the essence of the Predicament of Mankind lies in the imbalance of cultural development,

while cultural problems are the basis of global problems. Although the development of science and technology has brought tremendous knowledge and power to human, human has not acquired the corresponding rationality and wisdom, leading to the imbalance between cultural development and actual development, and making human beings lack of understanding of their own needs and abilities. Insufficient understanding of the integrity of the social system, insufficient understanding of the carrying capacity of the Earth, and blind pursuit of the exponential growth of material benefits, resulting in a deviation in the concept of development and a series of adverse effects on the ecological environment, thus limiting the breadth of growth and development And depth. Peccei believes that the Predicament of Mankind is entirely different from previous economic, political, military and other problems, and it is a brand-new problem that humanity has never encountered before. It is impossible to solve the Predicament of Mankind by using previous methods or means. Trying to get rid of the Predicament of Mankind through the material revolution brought about by the development of science and technology will only lead to further deterioration of the problem and even accelerate the decline of the world. It is also not feasible to expect the establishment of a new international

economic order to promote rapid economic operation. In Peccei's view, it is necessary to carry out a Human Revolution that is different from the previous material revolution. Its primary purpose is to realise the revival of the human spirit to walk out of the Predicament of Mankind fundamentally. Without a Human Revolution, human development will lose its way forward, and the current material revolution and social and political revolution will eventually come to a dead end. He advocated the establishment of a new social and cultural foundation such as cultural forms, values, and legal systems that are compatible with social development through the development of the Human Revolution, so as to strengthen people's awareness and responsibility for solving global problems in spirit and understanding. This will further enhance the ability of human to dominate and control science and technology and social and political revolutions, and solve the Predicament of Mankind and world crises.

VII

# Finale

It is incomplete to introduce Peccei without talking about his family, while little information can be found related to his love story, marriage and family. According to existing records, Peccei met his wife Marissa in 1928, and they held a simple wedding ceremony in Turin City Hall in 1933, only Peccei's relatives and several friends were invited. The Peccei couple had three children. In addition to the daughter as mentioned earlier Paola, who was born after returning to Italy from China at the end of 1937, the eldest son, Roberto, was born in 1942, and the second son, Riccardo, was born in 1945. Paola's husband is an Argentine diplomat. Roberto and Riccardo are both married to Americans. Roberto was the Vice President of Research at the University of California, Los Angeles. Riccardo was a Professor of Management at King's College London and a Researcher in the Industrial Sociology Department of Imperial College. Because the children live in different countries, Marissa travelled for a long time every year to visit her children. When the grandchildren grew up, Peccei bought a villa on the beach of Punta Ala, four hours from Rome. The villa was large enough to accommodate all family members from all over the world. Peccei used every August as family gathering time, which was the happiest time for him and his wife. Even though

he had several positions and was busy with work, he had never been absent. While accompanying his family, he also used this time to read books and think about problems.

Peccei had been living a complex and legendary life, throughout his life, he had witnessed two World Wars, Great Depression, Post-war reconstruction, Cold War, oil crisis and the rising of global environmental protection movement, all of which happened while he was furthering education, starting a business, expanding markets, and building contacts as well as exchanging ideas with elites. When he was young, he was longing for knowledge and a brighter future, attracted by new things, and aimed to implement justice. While he also did some compromises in order to balance commercial profits and the reality. Travelling around the world enabled him to better understand different social conditions and economics in different countries. Moreover, he could share the feeling with people living under the average level. Aiming to run the business successfully, he devoted himself to building various social connections, especially with the upper class and the elite. However, after achieving great success in his career, he became negative to the future of the world, which drove him to pay attention to "the complexity of the

world" to find ways to solve the Predicament of Mankind. It is impossible for the experienced Peccei not to know the difficulty of the job, but it is not so much the pressure that Peccei puts on him as the sense of responsibility of an entrepreneur with vision and ambition. His worries about human's future inspired later generations to think further about the concept of development, thus played a historic role in promoting the formation of the concept of sustainable development. The Club of Rome he founded became the forerunner organisation of the international environmental protection.

Peccei's thinking and the Club of Rome report have been through nearly half a century, but there remains an unanswered question (not a new one): how many people can live on the Earth? It is hard to find the answer to the question, as a series of conditions have to be taken into account, including welfare standards, energy supply, climate change, ecological evolution, potential threat of war and other global issues. In 2020, the sudden outbreak of COVID-19 pandemic drove people to seriously deal with the relationship between human beings and nature again. The *Earth Vitality Report 2020* released by World Wild Fund (WWF) has provoked more thinking. According to the report, the total number of mammals, birds, amphibians,

reptiles and fishes has declined by an average of about two-third in less than half a century. The report emphasises that the destruction of nature by human beings has resulted in a disastrous impact on not only wild animal populations, but also all aspects of human health and life. Thus, what is the relationship between man and nature? How do human beings keep getting along with other animals, plants and microorganisms? These questions are difficult to answer, therefore, it is time for more "Peccei" to devote into the cause.

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