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Grand Cross Order of the Kingdom of Cambodia



Chairman Kim Jong Il received the Grand Cross Order of the Kingdom of Cambodia from King Samdech Norodom Sihanouk of Cambodia in July 2004.



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Front Cover: Efforts are made to improve the quality of building materials (at the Chollima General Building Materials Factory)

Photo by An Yong Chol



Back Cover: Nocturnal scene of Mirae Scientists Street

Photo by Kim Ju Hyok

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Korea Advances in Mallima Spirit

THE WORD OF CHOLLIMA (A LEGENDARY winged steed which runs 400 km a day) symbolizes the revolutionary spirit of the Korean people who want to advance faster for a higher aim.

Sixty years ago they completed the socialist industrialization in a matter of fourteen years, clearing off the debris of the Korean war through the Chollima Movement for an upsurge in socialist construction as was appealed by the December Plenary Meeting of the Central Committee of the Workers' Party of Korea (WPK).

In the 1970s they waged an all-out innovation movement like the 70-day campaign in the spirit of Chollima, thus carrying out a six-year plan one year and four months ahead of schedule in the total industrial output and making a great turning point in socialist construction. In this period, the country abolished the tax system for the first time in the world and enforced the universal 11-year compulsory education.

Having pushed the socialist construction at the Chollima speed through the popular innovation movement, the Koreans have been unfolding a new era of Mallima by conducting a movement for Mallima Speed this year. Through the 70-day campaign of loyalty which began in late February making a prelude to the movement to make the Mallima Speed, they surpassed the state plan of industrial output by 144% and increased the industrial production 1.6 times compared to the same period of last year.

The 70-day campaign was followed by the 200-day campaign, and the movement for Mallima Speed gained greater momentum. The hi-tech industries like space technology industry have developed by leaps, and brilliant achievements have been recorded in the economic development in succession.

New production processes and factories have been built one after another, typically the acrylic paints production process in the Sunchon Chemical Complex and the Medical Oxygen Factory. As production is made Juche-oriented, modern, IT-based and scientific at a high level at lots of factories and enterprises like the Pyongyang Cornstarch Factory and the Phyongsong Artificial Leather Factory, the country's economy is turning into knowledge-based one.

In the Ryomyong Street project the soldier builders completed the frame of a 70-storeyed apartment in a short period of a little over 70 days in July last, demonstrating the spirit of Korea running by Mallima. In September last the army and the people rushed to the northern part of the country to restore the flood-damaged areas. They are achieving miraculous victory, converting the adverse into favourable conditions through joint efforts. Thus the afflicted areas are changing their appearances with each passing day.

The Korean people are conducting the Mallima movement in a far from peaceful environment. The aggressive manoeuvres and economic sanctions of the US imperialists and its vassal nations have



Members of the Paektusan Hero Youth Shock Brigade built the dam of Paektusan Hero Youth Power Plant No. 3 in less than three months.





The Medical Oxygen Factory.

► reached an extreme to stop the progress of the Korean people and stifle their idea and system. Nevertheless, the more desperate the enemies' manoeuvres become, the stronger the aspiration and desire of the Korean people become who are determined to build a socialist power, one with great national strength that is ever-prospering and whose people live happily without envying anyone in the world. And the revolutionary spirit and enthusiasm of the Korean people are increasing day by day to prevail over the capitalism in all the aspects—not only in political and military spheres but also in economic and cultural fields—relying on their own efforts and technology as well as resources.

As the WPK and the popular masses are now united together by one thought and will, the popular innovation movements like the one for Mallima Speed rise and develop in Korea. The WPK is holding fast to the principle of giving the highest and abso-

lute priority to the people's demand and interests in socialist construction, and the people are convinced that only when they trust and follow the Party with an absolute faith, will they be able to build an ideal society.

The young builders of the Paektusan Hero Youth Power Station were given a task to finish the construction of Power Plant No. 3 by late August this year. Defying the worst adversities like the severe cold of -30°C and heavy snowfall in the highland and the difficult condition of transport, they had a decisive battle to carry the task out before last May when the Seventh Congress of the Party took place. Thus they completed it in a short period of less than half a year. It is not only a brilliant result of the WPK's idea of giving importance to young people and its leadership but also a clear example that demonstrates the faith and will of the Korean youth who firmly trust and follow the WPK.

Korea is now leaping forward vigorously on the strength of the unshakable faith of the WPK and revolutionary enthusiasm of the Korean people who are determined to advance the bright future of a socialist power in the spirit of Mallima the way their senior generations built and developed their socialist country in the spirit of Chollima.

Yon Kwang Su

The Taedonggang Pig Farm has put stock-breeding on a scientific and intensive basis.



Source of All Victories

Dependence on foreign forces leads to national ruin

IF HE ADVANCES FORWARD RELYING ON himself, he can achieve everything in the world; if he turns to the God for help refusing to rely on himself, he cannot make revolution—this is a political faith President Kim Il Sung cherished all his life.

One day in April 1994, he met a foreign journalists' delegation. While having a talk with them he expressed the faith he had kept all his life. He said, **"To shape the future of Korea successfully, north and south must reject dependence on foreign forces and exert joint efforts. Korea belongs to the Korean people, which is capable of shaping the country's future. No one else can bring the Korean nation reunification and prosperity. Dependence on foreign forces is the path to national ruin; national self-reliance alone is the road to independence and prosperity. This is the truth we gained in the long revolutionary struggle, as well as a lesson of history."**

This faith has been the spiritual mainstay of the Korean people, which has inspired them to win victory after victory in the struggle to defend the sovereignty and dignity of the nation against the imperialist moves of intervention.

Self-reliance team wins

A dynamic all-people forward movement was in full swing in the DPRK in the 1980s to speed up the socialist economic construction by effecting another upsurge like the one brought about by the Chollima movement.

At the time the Musan Mine found it difficult to produce more iron ore because the process of drilling holes in hard rocks with rotary drilling rigs was in stagnation.

Chairman Kim Jong Il, understanding the situation, entrusted the workers of the Ragwon Machine Complex with a task to produce a high-

performance drilling rig. And later he made sure that a drilling competition took place on the top of Cholsan Hill in Musan using drilling rigs. Exactly it was a competition between the machine manufactured by the Ragwon workers and different kinds of foreign machines. *What would be the result of the competition?* In the competition held for 100 days attracting the attention of the whole country, the efficiency of the Ragwon-made rig emerged victorious. When he was reported on the result in detail on his visit to the Ragwon Machine Complex, Kim Jong Il was very satisfied and said the self-reliance team had won the game against the relying-on-others team.

The victory of the self-reliance team put an end to the wrong idea of preferring the foreign things. It reiterated the truth that one's own effort is the best choice and that self-reliance alone is the way out.

Standard of modernization

What is the criterion of modernization? Whenever Chairman Kim Jong Un of the Workers' Party of Korea visits light industry factories badly needed for the people's life, he refers to the problem.

In November two years ago he inspected a factory of the Korean People's Army which had been turned into a model, standard foodstuff factory of the country. He was quite satisfied and highly appreciated the fact that they had modernized the factory relying on their own technology. He said other foodstuff factories should take this factory as model and standard one in technical improvement. He said to the following effect: To set a proper standard of modernization is important. The modernization our Party pursues is not the one to introduce foreign assistance and technology and equipment as they are but the one that is to be done relying on our own efforts and technology.... In any case, our modernization means to develop and manufacture new production facilities relying on our own efforts and technology.

Sim Hyon Jin

Resin-based Paints and Peacock Brand

LAST YEAR THE SUNCHON Chemical Complex established the system of acrylic-resin painting material production and this year it has mass-produced the painting material to be sent to different sectors of the national economy.

This production process is completely put on the automatic basis and being operated with

Korea's own technique, raw materials and equipment. With the painting material process established, the complex has opened up a broad vista for developing chemical industry to a higher level.

Though it was a formidable task of laying novel processes, the officials, researchers and technicians at the Ministry of Chemical

Industry, the Sunchon Chemical Complex and the Namhung Youth Chemical Complex finished the drawing up of an intensive process design in a short span of time by joining their wisdom and efforts.

Scientists and researchers at the related units developed an automatic system for the acrylic acid and ester synthesizing proc- ▶



► ess, the core part in the building of the painting material system. They set up a system of sensing and warning the danger of explosion after studies of bulky documents, solution of the equation of explosion area of the oxidation reactor and real-time simulations. Thus, they could ensure safety in starting and operating the processes of material mixture and oxidation.

In the test operation all facilities worked precisely, confirming the reliability of the acrylic acid system. The resin-based paints from the complex are highly resistant to sunlight, glossy and strong in adhesion and resistance to climate.

The paints from the complex divide into outdoor and indoor acrylic materials, and into water and oil paints. The oil paint is used for coating various kinds of vehicles and equipment. All the paints from the complex are now popular with the users. The complex branded their products as "Peacock" to symbolize their natural beauty and decent colours.

In addition, the complex produces Terra Cottom to contribute to the agricultural production and improvement of the people's living standards. Terra Cottom can increase the rooting of trees twice. It also enhances the moisturizing rate and provides a good condition for the growth of vegetation when

used as a root-reinforcing agent mixed with nutrients. One kilogram of Terra Cottom is enough to treat as many as 400 saplings.

It is also used for intensifier in the paper industry, high-speed sedimentation agent in the mining industry, toilet paper in light industry, detergent and softener in the textile industry, and moisturizer and gel in the cosmetics industry.

The researchers and technicians of the complex are now devoting all their wisdom and efforts to a new research work for development of the chemical industry of the country.

Sim Chol Yong



Serviceable Factory in Building Powerful Country

SOME DAYS AGO I VISITED THE CHOLLIMA General Building Materials Factory situated in Posong-ri, Rangnang District, Pyongyang. A comprehensive large-capacity enterprise, it turns out various kinds of building materials such as sheet-metal roofing, heatproof composite boards, plastic boards, iron fences, foamed plastic and varieties of blocks.

Along the roads lined with various sorts of trees like persimmon trees and grassbelts on both sides in the wide compound are reasonably laid out the workshops such as those of sheet-metal roofing, light steel structures and plastic building materials, a products exhibition hall and service facilities.

Kim Jong Jin, chief of the factory's technical affairs section, said, "The recent modernization project has put all the production processes in my factory on an automatic and flowline basis. We now produce varieties of building materials while saving manpower and materials to the utmost. We supply them to important construction projects." Then he continued to tell me what he had experienced during the project of increasing the factory's capacity.

The first-stage project finished on October 4, 2012 and thus the factory laid a foundation for production of lots of building materials such as varieties of blocks, light steel structures, plastic boards, foamed plastic, plastic sashes and so on. To further the success the factory decided to conduct the second-stage project from November that year fully to meet the increasing demand for building materials relying on their own efforts and technology. It wasn't easy at all to carry out the project relying on their own efforts while ensuring the production of building materials

The sheet-metal roofing materials workshop.





The block workshop.

▶ needed for major construction projects. Some asked to take it easy as they had just done the first stage and others were of the opinion to get support from the State for building force. But Chief Engineer Kim Hyok Chol argued, "If we are to realize the Workers' Party of Korea's far-reaching plan to provide our people with the most civilized and happiest life and turn our country into the most thriving paradise, we should develop our factory into a comprehensive building materials producer by carrying out the project asap relying on our own efforts." And he pushed ahead with the project vigorously.

Though both materials and manpower were in short supply, all the employees of the factory, impressed by the management staff standing in the van to solve knotty problems, rose up to erect production buildings in a short span of time.

Meanwhile they accelerated the work to automate and modernize the production processes at a high level. As a result the mixing rate of materials in the block production process came to be controlled by the computer and many processes including those of acetylene and oxygen production were put on an

automatic and flowline basis.

Thanks to the years of devoted efforts of the management staff and the employees, a lightweight building materials production process, a metal fixture shop and a steel plate painting shop were newly laid, and thus the factory was equipped with modern building materials production processes in accord with the requirements of the 21st century.

A. A. Timonin, Russia's ambassador to the DPRK, wrote in the visitors' book, "While looking round the factory we came to have a better idea about what the DPRK has achieved in the economy. I am deeply impressed by the modern facilities and quality products of the factory. I wish the factory would obtain fresh achievements by fulfilling the production task set by the State."

General Manager Son Yong Su said, "We will make an active contribution to the building of a thriving nation by producing lots of quality building materials in the future."

Pak Un Yong



The plastic building materials workshop.



Appellations Born in Songun Era



Chairman Kim Jong Il sees vinalon cotton in February 2010.

CHAIRMAN KIM JONG IL was a peerless patriot who not only firmly defended the independence of the country, the national dignity and the socialist system of Korean style but also provided priceless material assets for the building of a powerful

socialist country under the banner of Songun.

It is the fifth anniversary of the Chairman's demise, and the Korean people are recollecting his Songun exploits with deep emotion.

While providing the Songun-

based revolutionary leadership, the leader gave lots of significant names. In compliance with the unanimous desire of the Korean people and the aspiration of the times, he made sure that the revolutionary history of President Kim Il Sung continued in the

▶ country without interruption. On his initiative the Juche era was established with 1912 when the President was born as the first year and the Day of the Sun was instituted. He also ensured the Kim Il Sung Constitution was adopted which stipulates Kim Il Sung as the eternal President of the DPRK and justifies his idea of nation-building and his exploits.

Kim Jong Il saw to it that the youth league was renamed after President Kim Il Sung in order to develop it into an eternal youth organization of the President.

While opening up the heyday of defence buildup under the banner of Songun, he gave significant names to honour the heroic exploits and noble spirit of the service personnel and other people for ever with the passage of time and the development of the revolution.

He named the ideological mentality and fighting spirit the soldiers displayed at the Anbyon Youth Power Station project as the “revolutionary soldier spirit” and encouraged the whole nation to emulate the spirit regarding it as the spirit symbolizing and representing the Songun era.

The construction of the Anbyon Youth Power Station was so difficult and enormous a project that it failed to be completed despite several years’ efforts. At that time Kim Jong Il gave the People’s Army the task to carry out the project forcefully. The soldiers finished the first-stage construction in a short period of one year by working in the spirit of defending the leader with their life, carrying out his order resolutely and sacrificing themselves heroically. The Chairman named their lofty fighting spirit

“revolutionary soldier spirit.” It is now the symbol of the Songun era which paved a broad avenue for the building of a socialist power.

That’s not all. The leader mapped out a plan to build the Huichon Power Station by 2012, the year that marked the centenary of the birth of President Kim Il Sung, and took revolutionary measures to push ahead with the construction by mobilizing the whole Party, the entire army and all the people. The builders opened up a broad vista to finish such a gigantic project in a few years, which would otherwise take more than ten years. He himself inspected the construction site several times crossing high and rugged mountains, and gave rise to the Huichon Speed, a new Chollima Speed.

Whenever he gave on-the-spot guidance to People’s Army units, he noted that patriotism means to love even a grass or a tree in the country, and gave units such endearing names as “Dwarf Pine Company” or “Persimmon Tree Company.” He also put forward a People’s Army officer’s family—whose members were all in the army—as revolutionary family of soldiers. And he highly commended women soldiers and officers’ wives calling them the women revolutionaries and the second bugler of the Songun revolution or cook of the supreme headquarters respectively.

On the road of his Songun leadership, lots of historic terms and names appeared. Covering over 2 400 km on his way of inspection of the northern area through the heavy snowfall in January 1998, Kim Jong Il named the spirit of the times created by the people in Jagang Province as “Kanggye Spirit.” On his way of field guidance he also

saw to it that the Torch of Songgang and the Torch of Ranam and the Spirit of Thaecheon were created, and kindled the Torch of Kangson for a new great upsurge in the revolution.

Thanks to his care, the monumental edifices which were associated with the people’s sincere efforts were named Youth Hero Road, Hungju Youth Power Station, Wonsan Army-People Power Station, Wonsan Salt Works, etc. He also named a mine as the Taehung Youth Hero Mine in appreciation of its contribution to the home production of the fireproof materials, and a stockbreeding area built for the good tomorrow as *Raeilgu*.

Wherever he went for on-the-spot guidance on the people-bound train, socialist fairylands appeared, like the night as bright as day on the Jangja River, the resounding Ullim Falls, the boundless Handure Plain, the sea of potato flowers at Taehongdan, the amazing soybean harvest, the autumnal scene of the Migok Cooperative Farm and the expansive fish ponds in Ryongjong. Accepting the people’s humble request with paternal affection, he named their children Tae Hong, Hong Dan, Chuk Bok, and so on.

Now the living standards of the Korean people are improving day by day, as is symbolized by the structures and goods named after his love for the people—Changgwang Street, Changgwang Health Complex, Pyongyang Underground Shop, Hamhung Grand Theatre, Amnok Restaurant, meat-garnished noodles in a flat vessel, Ryanggangdo cotton-padded boots, *Cosmos* hairpin, Pyongyang Wine, etc.

An Song Duk

Tradition of Victory Will Go Down for Ever



THERE ARE A NUMBER of anecdotes known to the public showing the great personality of the iron-willed, brilliant Commander Kim Il Sung, the eternal President of the Democratic People's Republic of Korea, who led to victory the anti-Japanese armed struggle in the early 20th century and the Fatherland Liberation War in the 1950s. However, the ambition of the US and other imperialists to invade Korea has never changed and, more than that, it has intensified generation after generation.

Chairman Kim Jong Il of the DPRK National Defence Commission led the acute anti-US confrontation to victory after victory while putting the US imperialists to the disadvantage. Between the late 1960s and the early 1970s he started to administer Songun politics. In January 1968 the US's armed spy ship *Pueblo* intruded into the territorial waters of Korea only to be captured by the navy of the

Korean People's Army. At that time the US kicked up a racket as if it would go to war at once, while deploying huge armed forces including an aircraft carrier around the Korean peninsula. The American politicians demanded Korea make an apology and return the ship, and threatened that if Korea rejected their demand they would use nuclear weapons. Korea coped with the blackmail by declaring that it would answer the "retaliation" with retaliation and return an all-out war for the "all-out war," making full combat preparations.

Frustrated by this stand, the US had no option but to send a letter of apology in which it apologized for the espionage and hostilities committed by the *Pueblo* against the DPRK and gave assurance that no US ships would intrude into its waters of the DPRK again in the future. The then US President Johnson lamented that it was the first letter of apology since the birth of

the United States. Later, the US's large spy plane *EC-121* was shot down when it intruded the airspace of the DPRK in April 1969. In August 1976 some MPs of America committed an act of provocation against security guards of the DPRK in the joint security area at Panmunjom along the Military Demarcation Line which divides the Korean peninsula into the north and the south, only incurring due punishment. These incidents brought an ignominious defeat of the US. All those victories were attributable to Chairman Kim Jong Il's art of commanding military operations.

With the beginning of the 1990s the US imperialists' moves to stifle and isolate Korea reached extremes. The US doggedly made a fuss about the suspicion of non-existent nuclear development of the DPRK. Arguing for nuclear inspection it attempted to take advantage of the matter as a means of isolating the country ►

► internationally. To the end the US instigated the International Atomic Energy Agency to adopt a “resolution” aiming at forcible inspection of military installations of Korea, while conducting the Team Spirit joint military exercises on the largest ever scale in an attempt to support the racket militarily.

Kim Jong Il crushed the US imperialists’ scheme of ad hoc inspection and led the confrontation to victory, thus safeguarding the country’s sovereignty and socialism. On March 8, 1993 he issued an order of the Supreme Commander of the Korean People’s Army declaring a semi-war state to the whole country, all the people and the entire army. Days later, he saw to it that a statement of the DPRK government was made public declaring its withdrawal from the Nuclear Non-Proliferation Treaty in order to protect the national sovereignty and supreme interest. It foiled the US’s attempt to internationalize the nuclear issue of the Korean peninsula. Instead, the DPRK-USA Agreed Framework was adopted at the talks between the two governments, and the then US President Clinton sent Chairman Kim Jong Il a letter of assurance guaranteeing its implementation.

In the 2000s as well as the late 1990s the DPRK still became the main front of anti-US confrontation. Believing in the omnipotence of force, the US further intensified its moves to isolate and stifle the DPRK and, on the pretext of the absurd “nuclear problem” and “missile problem,” persistently pursued its scheme to disarm Korea and dismantle its socialist system by mobilizing the allied

forces of imperialism.

In this context Kim Jong Il maintained a resolute stand of launching a counterattack. He saw to it that his country coped with the enemy’s “high pressure” with higher one and “hard-line measures” with harder-line ones. Under his wise leadership the DPRK government issued a statement on complete withdrawal from the NPT in January 2003, and the DPRK Ministry of Foreign Affairs released a statement on the nation’s possession of nuclear weapons in February 2005. As Korea has been acknowledged as a nuclear state that manufactures and launches artificial earth satellites, the one-sided nuclear threat from the US against Korea—spanning scores of years—has been terminated completely. The victory without gun report in the anti-US showdown is just the great victory of the Chairman’s matchless courage and iron will, and resolute and determined measures.

This tradition of victory is now being carried on by the KPA Supreme Commander Kim Jong Un. On December 12, 2012, Korea successfully launched its earth satellite *Kwangmyongsong 3-2*. At that time the US, Japan and the south Korean puppets mobilized a lot of up-to-date equipment to survey the satellite. But the DPRK leader foiled their attempt with his protean tactics. The next year when the enemy kicked up a racket while finding fault with Korea’s satellite launch, he saw to it that a third underground nuclear test was carried out for a counterattack. Then he advanced the policy of simultaneously conducting economic construction

and nuclear buildup. It resulted in successes in an underwater launch of ballistic missile from a strategic submarine, a simulation of ballistic rocket’s re-entry into the atmosphere and a test-fire of ground-to-ground intermediate-range strategic ballistic rocket *Hwasong 10*. All these were done under the on-the-spot guidance of the leader.

The epoch-making events encouraged the Korean people in their endeavour to build a thriving socialist nation and dealt a heavy blow to the imperialists who were desperately clinging to their moves to check Korea’s advance. In late 2014 a Russian newspaper carried an article which reads in part as follows:

“Today the DPRK’s nuclear possession is bringing respect for the courageous and wise Korean people from those people who are coolly assessing the balance of power in the international arena. Because the country’s nuclear possession can be a means to tame the US that is resorting to arbitrary policies in collusion with NATO after dismantlement of the Soviet Union. The emergence of a new nuclear power is reinforcing global peace, security and stability. The progressive world knows well that global peace will be ensured as long as there are the nuclear weapons in the hand of the indomitable and diligent Korean people. Those nuclear weapons will always protect the good-natured people and entirely contribute to the effort to check the US and Western forces’ desperate attempt to realize their plan to invade other countries.”

Chae Hui Won

For Great National Unity

THE ANTI-JAPANESE WAR HEROINE Kim Jong Suk worked devotedly all her life not only for the liberation of the country and the happiness of the people but also for the national unity and reunification true to the intention of President Kim Il Sung.

After the country was liberated from the military occupation of the Japanese imperialists in August 1945, Kim Jong Suk returned to her motherland, and yet she was not only happy.

In less than a month after national liberation, in September 1945, the US imperialists occupied the southern half of Korea in the guise of “liberator.” So, the Korean people, who had lived in one land with the same lineage for five thousand years, began to suffer national division due to the US imperialists.

With a view to establishment of a unified central government representing the whole of Korea on the principle of democracy, Kim Il Sung, leader of the nation, directed a primary effort to unity of the whole nation. He proposed to hold a joint conference of representatives of political parties and public organizations in north and south Korea. His proposal received the support and approval from all the Korean people.

While dispatching officials to invite political parties and public organizations as well as individual personalities in south Korea to the conference, he opened a road of free travel to Pyongyang for the representatives of the rightwing parties in south Korea.

At last, in April 1948, the conference was held in Pyongyang. It was the first historic national meeting where the representatives from the north and the south discussed the matter of national reunification. It was also a significant assembly that encouraged the patriotic-minded democratic forces of all strata to unite firmly behind the

national leader.

Some days after the conference, the women representatives from south Korea were honoured to see Kim Jong Suk at a meeting. Warmly shaking hands of the visitors one by one, she thanked them for their long journey and asked whether they had had any inconvenience during their stay, particularly in their accommodation. Then she said warmly that they must have had great troubles as women struggling under the oppressive rule in south Korea. The south Korean women could not help being attracted to her warm humanity.

Inviting them to be seated, she spoke of the significance of the joint conference in detail. Then, attending the meeting together with them, she said that national reunification would come earlier only when they fulfilled their duty and that the women should turn out as one in the struggle to win national reunification with their united efforts against the US imperialists.

Her noble image as an energetic activist for national unity and reunification was impressed on not only the south Korean women representatives to the joint conference but also the patriotic figures of south Korea who made a laudable career for reunification thanks to her effort.

Under the warm care Kim Jong Suk showed for all the fellow countrymen without distinction true to Kim Il Sung’s idea, lots of people had a clear awareness of the truth of life and chose a new life, thus starting a worthwhile career for national reunification.

The brilliant life of Kim Jong Suk, who devoted all her life to the endeavour to realize great national unity and the line of national reunification of President Kim Il Sung, is enshrined in the hearts of the Korean people.

An Nam Hui

Constitution for the People

CELEBRATING THE 44TH ANNIVERSARY (December 27) of the adoption of the Socialist Constitution of the Democratic People's Republic of Korea, a *Korea Today* reporter had a talk with Jang Chun Sik, a section chief of the Law Institute under the Academy of Social Sciences. Excerpts:

The constitution is the main law of the State. It is legitimated in compliance with the will and demand of the class holding the State power, isn't it?

Certainly. That's why the law is absolutely charged with the class character. In other words, the problem is whom the law serves. The most important feature of the Socialist Constitution of our country is the serve-the-people spirit. The constitution completely embodies the fundamental principles and requirements of the Juche idea which demands that everything in society serve the people and that all problems arising in the revolution and construction be solved by employing the strength of the people. In our country the popular masses not only legislate the law but also enforce it. So it is a true champion of the independent demand and interest of the people. The popular character of the constitution is also manifested in process of its enactment. The people are my God—this was the maxim of President Kim Il Sung in his life. The President paid close attention to the contents and expressions of the Socialist Constitution so that it correctly reflects the desire and requirements of the people and ensures their rights fully. He regarded the people as his god and showed infinite love for them. It is contained in every article and paragraph of the constitution.

The popular character of the Socialist Constitution finds definite expression in the system and content of the constitution, doesn't it?

The Socialist Constitution of our country comprehensively stipulates the principles to be applied in every field—political, economic and cultural. So, it is a system that fully accords with the inherent requirement of the socialist system to ensure an independent and creative life for the people who are masters of the State and society. It is also clear when you look at the provisions on the character and guiding ideology of our Republic, the supreme principle of the State activity and the fundamental rights and duties of citizens. All citizens are effectively guaranteed by the State for genuine democratic rights and liberties as well as material and cultural well-being. All citizens who have reached the age of 17 have the right to elect and to be elected, irrespective of sex, race, occupation, length of residence, property status, education, party affiliation, political views or religious belief. Citizens have the right to work. All able-



Jang Chun Sik (*right*), section chief of the Law Institute under the Academy of Social Sciences.

bodied citizens may choose occupations in accordance with their wishes and skills and are provided with stable jobs and working conditions. Every citizen has the right to relaxation in our country. This right is ensured by the establishment of working hours, the provision of holidays, paid leave, accommodation at health resorts and holiday homes at State expense and by a growing network of cultural facilities. The Socialist Constitution specifies women are accorded equal social status and rights with men. Thus, women take part in State and social activities with equal rights with men as masters of State and society. The State affords special protection to mothers and children by providing maternity leave, reduced working hours for mothers with several children, a wide network of maternity hospitals, creches and kindergartens, and other measures—they are some examples of our society's respect for women's rights. Citizens are entitled to free medical care, and all persons who are no longer able to work because of old age, illness or physical disability, and seniors and minors who have no means of support are all entitled to material assistance. This right is ensured by free medical care, an expanding network of hospitals, sanatoria and other medical institutions, State social insurance and other social security systems. Citizens have the right to free education. The right is ensured by an advanced educational system and by the educational measures enacted by the State for the benefit of the people.

Besides, the Socialist Constitution is full of contents reflecting desire and requirements of the people. Today in our country the rights and liberties of citizens are further expanding with consolidation and development of the socialist system. □

The DPRK— Great People's Power (3)

(Continued from the last issue)

IT IS PRESIDENT Kim Il Sung's instruction to supply soya milk to children at nurseries and kindergartens and schoolchildren. When Korea was tightening its belt and even a kilogram of grain counted [during the time of the Arduous March and the forced march], Chairman Kim Jong Il of the DPRK National Defence Commission earnestly said that soya milk should be supplied to the children, king of the country, at all costs though the country was in a difficult situation. He took relevant measures to produce the milk and provided refrigerator vans for carrying it. I heard that he continued a long journey of field inspection while having a rice ball for a meal when the children were relishing soya milk. He was indeed the leader of the people, whose image was identical to that of President Kim Il Sung.

Visiting the people the Chairman was always on the train till the last moment of his life and passed away on his way to the people. The Korean people call the train used by the President and the Chairman *people-bound train*. I think it was born of their whole life of selfless devotion to the people. In other countries you cannot hear such a phrase as

people-bound train. The inherent Korean words are the Korean people's maximum appreciation of the great life of President Kim Il Sung and Chairman Kim Jong Il who founded the people-centred socialism and devoted their all to the well-being and happiness of the people, I would say.

Today the leaders' political programme of prioritizing, respecting and loving the people is being securely carried on by the respected Chairman Kim Jong Un of the Workers' Party of Korea. Since the young leader emerged as supreme leader of Korea in December 2011 following the demise of Kim Jong Il the world's mass media watched every moment of his political activities. The focus of their attention was directed to how the leader would achieve the political unity of the nation and win the support of the people. Soon the world witnessed a great image of the leader administering the politics of giving top and absolute priority to the people under the slogan of "Everything for the people and everything by relying on them!" and the appearance of the people being fascinated by him.

It is his creed that there are the revolution and the party for the people, with no other way around. So he unhesitatingly

navigated the raging sea to see the people on faraway, solitary islets—that even the parents wouldn't dare to visit—and brought about unbelievable changes to the inhabitants. Under his direct guidance and concern wonderful rest homes and orphanages were built for the helpless elderly folks and orphans. The policy of simultaneously conducting economic construction and building up the nuclear forces—advanced by Kim Jong Un at the March 2013 Plenary Meeting of the Central Committee of the Workers' Party of Korea—can be said to be a true crystallization of his love for the people.

I think the point of this policy is to attain a powerful nuclear deterrent for protection of the people and prevent war and ensure peace with nuclear weapons. According to my analysis it has another meaning that an important aim is to cut a colossal sum of funds for upkeep of conventional forces by building up nuclear forces and allot it to economic construction to improve the living standards. Actually, the defence budget has been cut consecutively in Korea. It was 16% in 2013, 15.9% in 2014 and 2015 and 15.8% in 2016. On the contrary, more funds have been allocated to those sectors related to the improvement of the people's living ►

► standards.

It is an obvious fact that the military expenditure of Korea is no match for that of the United States. The DPRK, however, is cutting its military expenditure and directing the surplus money to the improvement of the people's living standards despite the ever-growing military pressure from America. I think it's a bold decision you can hardly make without the ability and courage to protect the people with a super nuclear deterrent and powerful military potentials. It also can be known that the improvement of the people's living standards is treated as the most important issue facing the Party and the State.

The imperialist forces are so afraid of Korea's H-bomb and launch of artificial satellites and are making fuss of it. I think it is because they know the nuclear weapons and satellites in the hand of the people, the most powerful beings in the world, may break the position of powers. Probably they are already frightened because they couldn't check it. Only in a few years Kim Jong Un has attained a secure position as the people's leader enjoying their absolute support and trust, which is a miracle unknown in the world political history.

In October 2015, I visited Pyongyang again, and had an honour of hearing Kim Jong Un's speech delivered at the military parade and mass demonstration of the Pyongyang citizens held splen-

didly in celebration of the 70th anniversary of the founding of the Workers' Party of Korea. The voice from the bottom of the heart can be heard with the heart alone. In the bright eyes of the leader and in the face of the people cheering him excitedly, I could read the warmest feelings between the leader and the people. I keenly felt that he was delivering the speech of love for the people. It was just an epic of thanks dedicated to the people, the most precious praise of the people for their righteousness and inexhaustible creative abilities. It also meant his determination of faith and will to uphold the people as his God for ever.

Once there existed the National Panchayat in Nepal, which stood for the national council with no attendance of political parties. Though there existed political parties with different names, the non-party political system existed for nearly 30 years—this shows that none of the parties was a true representative of the people's will. I dare say it is only the Workers' Party of Korea in the world that has existed as ruling party for a long time while enjoying absolute support and trust from the people. It is the WPK's way of existence that the line and policy of the Party and its building and activity are all inconceivable apart from the people. I think the gist of the recent Seventh Congress of the WPK is that it mapped out a new plan with the emphasis put on the building of a prosperous and powerful country where the people

enjoy the happiest life in the world. The fighting slogan "Let the whole Party make selfless, devoted efforts for the good of the great people!" is eloquent proof.

From the first day the Party held up its flag bearing the image of the people on it, President Kim Il Sung and Chairman Kim Jong Il built up the Party so that it shares sweets and bitters with the people and makes selfless, devoted efforts for them, instead of lording it over the people. Now the policy is securely carried forward by Kim Jong Un. I am a pressman without party affiliation. But I cannot but voice my support of the Workers' Party of Korea, because it shares the same destiny with the people with its root of existence in the people. Indeed, the people-first principle is the creed of the Korean leaders. As there is such a great creed, the Korean people have become the most powerful in mental strength and creative ability and are now making a brilliant history of building a powerful socialist country on the strength of self-reliance and self-development, single-heartedly united around their leader.

A paragraph of the closing address delivered by Kim Jong Un at the Seventh Congress of the WPK is drawing the attention of the world mass media: "**Cherishing deep in my heart the greatest trust and expectations of the delegates, Party members, service personnel and all other people** ►

► **who have entrusted me with the heavy responsibility of the chairmanship of the dignified Workers' Party of Korea, I will fight on undauntedly, offering myself unsparingly to the sacred struggle to hasten the final victory of the cause of the Juche revolution pioneered on Mt Paektu; and I pledge myself to remain faithful to the revolution, holding our people invariably and selflessly at any time, at any place and at any moment in high esteem, even if my body may be torn to pieces and I may fall."**

I think this kind of pledge can be made only by those who love the people with conscience and are endowed with the love. It is impossible for those who seek a certain political purpose or are bound to any duty as leader. In fact, the leaders of the DPRK are the great sun shining in the heaven of the people. The Korean people's thoughts and feelings about their leader are an inherent quality of the nation, which no other peoples in the world can understand or imitate. It is the moral standard of paramount importance for the Korean people to regard their leader as the sun or God and faithfully support him with absolute trust. Guided by this ethics they consider it their boundless honour and happiness to lay down their lives for the leader. Nothing in the world would be a match for the strength of such people.

If anybody asks me what kind of people the Koreans are, then I will say as follows: They are strong in ideology. They cherish the idea of their leader as the mighty weapon of all victories. With a firm will they change adversity into prosperity while breaking through whatever trials and difficulties. I assert that the DPRK is the only people's power in the world, which is advancing by leaps and bounds by dint of the unfathomable strength of the people with strong ideology and will.

The human history has witnessed the rise and fall of powers in different ages. And the common thing about them is that no power had lasting absolute strength and that the rise and fall of a nation was always predestined. However, I am seeing an eternal power with an absolute might in the appearance of the DPRK. People are eternal beings, and the greatest might is in the people. With this guiding ideology reflecting the truth Korea has struck its root deep in the fertile soil of people who are united closely behind the leader with the same ideology and moral obligation and for the same purpose. Thus it is a great people's power with great potentialities and everlasting vitality.

We Nepalese have a saying which goes, "A good tree has luxuriant foliage." Just like the sun shines for ever in the blue sky, Korea, guided by the popular leader, is advancing forward on

the strength of the vitality of the people and will continue to write the history of the great people's power. A political commentator of the United States concluded one of his articles as follows: North Korea is resolutely opposed to the UNSC's abuse of power and taking measures against all sorts of the US's pressure undauntedly. It is now eliciting admiration and respect from the world people who are waging a struggle to free the world from the imperialist oppression and exploitation of man by man.

This is a correct comment. I chant loudly that under the sun of the people shining brightly for ever in the sky the great people's power, the DPRK, will successfully build a new independent world cherished by mankind. At the Seventh Congress of the WPK Chairman Kim Jong Un set the high target of accomplishing the building of a socialist power. I have no doubt that the Korean people, along the course indicated by the Seventh WPK Congress, will surely build a great power, which will rank at the top of the world in all fields of politics, the economy, culture and national defence, by virtue of world-admiring heroism and miraculous exertions.

*Manju Ratna Shakya,
PhD in Socio-political Science,
President of the Nepal
Journalists Association*

(The end)

Breakthrough in Afforestation

RECENTLY A NATIONAL information system for forest resource management has been developed in the Democratic People's Republic of Korea. It is attributable to devoted efforts of the researchers of the earth environment science faculty of Kim Il Sung University.

In the past forest resource management was based on a decennial survey of forest, soil, conditions for adaptation and topographical conditions. Such being the situation, proper estimation of acreage of forests in the country was impossible, resulting in the waste of a good deal of manpower, money and time.

Years ago the Workers' Party of Korea set out a far-reaching plan to turn all the mountains and hills across the country into gold and treasure ones in a decade through a dynamic afforestation campaign. For its realization it was crucial to establish a scientific system for forest resource management.

The research team set the target of building a system of managing forest resources by referring to the analysis of satellite-sending images on the basis of earlier on-spot investigations into all the forest areas in the provinces across the country.

But it was not an easy job to input into the computer the boundaries of forest zones by analysing satellite-taken photos of the forest areas across the country. They had to attain a high level of ability to analyse satellite-taken pictures and correctly input the boundaries by distinguishing forests by their kind.

The research team simultaneously pushed ahead with the analysis of a great deal of data on the survey of forest areas, and the

work of learning the technology of analysing satellite-taken pictures in relation to the old data on forests while inputting the boundaries of forest zones into an e-map after correct identification.

In the course of this they managed to acquire a perfect technology of analysing satellite-taken images and established a national system of investigation into fixed standard forest zone—that was the basis for estimation of the amount of forest resources—and sorted out many sci-tech problems arising in management of forest resources such as those of classifying and measuring forest areas and kinds of trees, setting grades of rare plants in the forests across the country and drawing up a map that shows the state of afforestation. In this way they developed an information system for forest resource management for the first time in the country by developing such technologies as those of analysing satellite data and ascertaining geographical information.

With the system developed, the forest survey that plays a great function in production and environmental protection became surely objective in Korea. Also, it has become possible to cut the period for forest survey and manpower for it considerably while saving a lot of fund and bolstering the scientific accuracy of analysing and measuring forests. Now the country can make analysis and measurement of forest resources at any time and carry out the afforestation campaign through scientific calculation by considering the visual quality in preparing varieties of maps and statistics on forests.

And the direction of perspective forest management can be set on the basis of correct analysis of the covering state of mountains using satellite-taken pictures.

The successful research project was highly appreciated at the 31st national sci-tech festival held between August and early September this year.

Sim Chol Yong

Researchers resolve sci-tech problems for forest resource management.



Useless into Useful

RESearchers AT THE Urban Management Science Institute of the State Academy of Sciences recently developed a compound lagging material mainly from waste polystyrene, a kind of the urban rubbish. The material costs very low in production, and is of high heatproof efficiency and very convenient to deal with in building operation. And it is also good for improving urban beauty. As it is green material that causes no environmental pollution, it attracts the public attention.

Some days ago we met Kim Yun Chol, head of the institute, who told us a story.

One day a few years ago Kim Chang Su in charge of a section of the institute came to see a good deal of scrap polystyrene piled at a dump on his way home. He knew glass, vinyl, plastic and all others but polystyrene are recycled.

Kim decided to solve this problem with his fellow researchers. First he made a plan to produce lagging material by making the most of the heatproof property of polystyrene. And he divided the researchers into several teams to

conduct the research work by individual processes. The biggest challenge was to pulverize waste polystyrene to a certain size. As polystyrene is flexible it is difficult to pulverize it with an ordinary crusher. Kim intensified the research with his creative wisdom and zeal scanning a good deal of sci-tech documents with his scientists. At last a new type of pulverizer was made with a rational balance of form of fan, speed of rotation and output of electric motor.

And while they were manufacturing facilities necessary for the mixing process they encountered a number of sci-tech problems. However, So Ok Son and Ko Chol Ryong conducted the research work day and night and thus managed to manufacture a new cylinder-shaped vertical agitator that mixes waste foamed plastic with cement and developed an additive so as to increase the production and improve the quality of the compound lagging material while saving a great amount of cement.

It is suitable material for use in actual conditions as it was developed on the basis of analysis of the merits and de-

merits of organic lagging and inorganic lagging materials. Therefore, it was granted an invention certificate of the DPRK and a state certificate of registered sci-tech achievement and a certificate of applied sci-tech achievement.

On the basis of the achievement the researchers conducted the work of putting the production of the material on the industrial basis forcefully to satisfy the demand from construction projects.

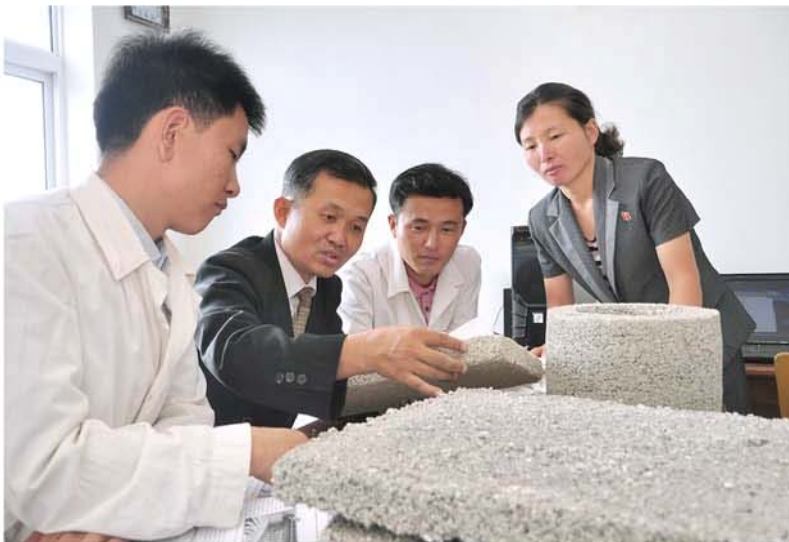
The material is easy to use in building operation and can be introduced into buildings by an ordinary method. And it has a good adhesion and can be plastered without the aid of wire net. So it is highly appreciated by construction officials and workers.

Kim Chang Su says, "We will make sure the citizens enjoy a wealthy and civilized life to their heart's content by intensifying scientific research work."

The researchers never rest on their laurels. They are now engrossed in a new research task.

Pak Yong Il

Scientific research work intensifies.



Heroes' Alma Mater



IN KANGSO DISTRICT, Nampho, there's Hero Kangso Senior Middle School. In honour of the 13 Heroes the school has produced—Heroes of the DPRK and Labour Heroes—the government gave the title of Hero to the original name. Among the Heroes are those who dedicated themselves to the well-being of the country and the people—Kim Ryong Hyon, Hero of the DPRK who, as deputy leader of a coastal battery, sank three enemy destroyers in the sea off Wonsan during the Fatherland Liberation War, and Kang Sun Chil who laid down his life for the sacred cause of national reunification. And the most recent Hero is Ri Chang Hyok who performed labour exploits in developing Pyongyang as capital of revolution. He is the 13th Hero from the school. Many of the Heroes offered meritorious services for the socialist construction and the people's well-being.

The school administrators are intensifying the education in Kim Jong Il's patriotism to make



Feats of the Heroes are implanted deep into the minds of the students.

sure the students work faithfully for the country and the people—after they finish school—by learning from the Heroes' exploits. Especially the teaching staff lead the students to cherish in their life the idea that patriot-

ism finds expression in their good work at studies, keeping the school and neighbourhood clean, respecting the seniors and doing lots of good things.

In this regard the teachers are setting examples for the children. ▶

On the Road of Creating New Teaching Methods

THE PYONGYANG TECHNICAL College of Economics has decades of history. Today it has a thousand students and two times more faculties than the time of its founding when it had only hundreds of students. It has achieved a lot of successes in education and scientific and technological research projects. At every stage of socialist construction it has made great efforts for rearing qualified personnel who can contribute truly to prosperity of the country. It has exerted itself to improve educational contents and methods steadily, because it is well aware that they are the basic guarantee for quality of education. As required by the IT era, new faculties have been established with the curriculums made perfect, and new teaching methods have been developed to improve the practical ability of the students.

Recently the teachers have created more profitable teaching methods which help students grasp new and practical knowledge faster and apply it to practice. They made a model of teaching method based on multimedia. Building on their wins at annual teaching competitions and aca-

demical contests, they have put primary efforts in improving the quality of instruction consistently.

The college has conducted a mass-involving campaign with which to overtake and learn from one another and swap experience

in order to improve educational contents and methods. The teachers achieved a lot of successes through discussions on teaching methods, inspection of lectures at work and teaching competitions.

Take the teaching method developed by Ham Pong Suk for ▶

Teachers develop new teaching methods to help students grasp practical knowledge faster.



▶ The school is paying deep attention to the effort to improve the teachers' attainments. The administrators maintain that the teachers should be capable of teaching any subject since each of them should tutor the class in their charge after school as well as in the subject they specialize in. Therefore, the teachers work hard to make a perfect preparation for lessons.

Besides, the school is conducting a dynamic campaign to swap experience, and overtake and learn from others in instruction. Workshops are arranged to discuss how to improve teaching methods. New teaching methods are proactively developed and introduced among the teachers.

Availing themselves of the annual teaching aids exhibition the administrators ensure the teachers make practical teaching aids to be used in lessons.

The school is well known for many teachers who won the title of October 8 Model Teacher and the certificate of new teaching aid.

The school has labs of math, physics, biochemistry and basic technology, an IT study room and a foreign language lab, which are well in accord with the modern trend of education. Experiments and practices are conducted making the most of renewable energy. With the capability of the teachers improved, the attainments of the children have grown high. A good

view of the school's education can be taken from the fact that the students came first in the subjects of math and physics at a number of national academic competitions of top-honour students. More and more students win the top honour year after year. It ranks at the top in the rate of college admission in the city.

The school has a marvellous landscaping—flawless in every respect. Considering the healthy environment and enthusiasm for learning, visitors to the school say it is a matter of course that the school has produced so many Heroes. The students are fond of saying, "I'll be the next Hero of my school."

Sim Hyon Jin

▶ instance. She leads lectures and explanations in an original way and produces maximum effect in improving the faculty of cognition and practical ability of students by a method with the stress on the form of question and answer with students through two-way communication of computer network.

The college has produced a number of model teachers by intensifying competitions between faculties and teachers to follow Ham's method. New teaching

methods created by the college have been adopted by other technical colleges across the country. Efforts have been directed to the work to make educational contents practical, synthetic, up-to-dated and IT-based and develop and introduce new methods of examination to enhance students' enthusiasm for studies and accurately evaluate their attainments.

The college has built a new gymnasium and made all classrooms multi-functional as part of

the programme to improve the educational environment and conditions. Over the years it produced a department whose teachers are all Masters—the first ever among technical colleges—and has increased the number of holders of titles like PhD and Associate Professor.

Devoted efforts of the teachers, who work with all their wisdom and enthusiasm with a sense of responsibility of being in direct charge of training of able personnel, are reflected in the ability of students. Graduates of the College including Labour Hero Kim Kyong Hui and Merited Accountants Han Jong Suk and Yun Hye Yong are playing their role admirably in managing state economic organs, factories, enterprises and research institutions.

Rector Song Sam Song says, "The level of the students' attainment depends on the teacher's. It is our duty to contribute to the building of an economic giant by training competent people who are well versed in their own sector through constant improvement of teaching methods and contents."

Rim Ok



Sincerely Working for the People's Health

THE PYONGYANG MEDICAL Appliances & Technology Company in Mangyongdae District, Pyongyang, is actively contributing to improvement of the people's health. It develops varieties of new medical appliances while ensuring normal operation of medical appliances including X-ray cameras and CT facilities and remoulding them along modern lines. The facilities they developed include echoencephalograph, biological quantum resonance analyser and portable

perature, oxygen saturation and heart rate.

Those successes are attributable to efforts of all the staff and the tireless study and enthusiasm of Kim In Chol, director of the company.

Some years ago Kim In Chol decided to make a portable medical checkup device. One day when he visited his old university teacher, he found him being examined by his doctor in charge. The examination took a long time to diagnose. Then the doctor

know quickly main elements of life indices. Soon he embarked upon designing. The most difficulty he faced was how to make it small enough to carry easily. It was really an obstacle. It was inevitable that the equipment would be bulky when the screen was built in. Then, one day he saw his daughter reading newspaper on her mobile phone. *Oh, yes! It can be portable when it is connected with the mobile phone*, he cried to himself. Thus, basic designs were completed one by one and a lot of scientific and technical problems were solved. The device's scientific accuracy turned out to be true in the clinical examinations and final test. Kim offered it to his old teacher first.

Now a lot of people use the equipment. Kim says, "We are going to establish a medical service system on the basis of the mobile communication network. Then, people can be given precautionary and medical service about their illness without going to hospital."

Medical appliances developed by the company won the first prize at the 5th and 6th National Medical Appliances Exhibition.

They are now spending busy time making united efforts to develop new varieties of medical appliances which will be helpful to the health improvement.

Mun Il Jin



medical checkup device. They give no inconvenience to people as they seldom contact the body, and need little time in examination. Especially, the portable medical checkup device is popular as it can be connected with mobile phone comprehensively to evaluate the physical condition in any place at any moment in terms of blood pressure, electrocardiogram, plethysmogram, tem-

told him to take good care of his blood pressure and come to see him regularly every month. Kim was depressed at seeing it. *I graduated from the Kim Chaek University of Technology, and I'm a doctor now. I should make something of practical importance that can give help to people*, he made up his mind. Then he had an idea of a portable medical checkup device that could help

Breaking New Ground in Neurosurgery

RO YONG HAN, HEAD OF THE NEUROSURGERY department of the Pyongyang Medical College of Kim Il Sung University, is a Merited Scientist, doctor and an associate professor. Although he is now well over sixty, he is devoting to the education of the rising generation as well as treatment of the cerebrovascular disease.

He began his study of cerebrovascular disease in the 1980s. At that time, the treatment of this disease was dependent on pharmacotherapy. But this therapy was imperfect in many ways and very slow to take effect in treatment. He decided to break away from the existing formula and apply the method of surgical operation in its treatment. At the time, it was an urgent task of study to apply the means of operation to the disease. Especially, it was a baffling problem to set a standard in deciding who is the case of cerebral hemorrhage to be operated on and who is not. That is, it was to distinguish between the cases to be treated by medicines or to be operated on. While treating serious cases of protracted illness and emergency cases in a comatose state who have difficulty in breathing, he set datum points one by one. In this course, he developed several effective methods of operation including the one of separating the brain to remove the curdled blood from it and the one of injecting drugs to dissolve the clots of blood.

In the latter half of the 1990s, he began to develop the microsurgery treatment of the epiglottis and microvascular decompression. This made it possible to cure patients suffering from a severe headache caused by the adhesion of nerves and veins. While exerting himself for microsurgery treatment for the deep cerebral tumour, he proceeded with his studies on a more effective and safer operation. Performing all surgical operations on the brain personally, he invented all the necessary microsurgery tools and implements. Especially, he developed a new myelography and completed it to clear up morphologically the causes of the lumbagos such as sciatic neuralgia. So, the patients were able to get a synthetic, exact and scientific diagnosis.

He deepened his studies on the hypertensive cerebral hemorrhage which was examined and diag-



nosed by CT at the time, and developed a new method of diagnosis by clinical symptoms. This method by which the health data of the patient obtained through the medical examination are fed into the computer and the findings mathematically derived made it possible to find out the area and the seriousness of the disease. So, he came off first in the 15th National Exhibition of Health Service Sci-tech Achievements and the 5th National Medical Appliances Exhibition. He has over 70 certificates of invention and new ideas and sci-tech registrations. He also presented over 40 research theses of academic importance. His speech about the treatment of subarachnoid hemorrhage at the 17th Pyongyang symposium on medical science of compatriots at home and abroad was highly appraised.

He has also contributed to educational work by making fine experimental apparatuses and teaching aids such as *CT Image and 3-D Show of the Brain*, *Surgical Treatment of Lumbar and Cervical Vertebral Diseases*, and the relief model *Cerebrovascular Disease*. The textbook *Neurosurgery* and the reference books *Lumbago and Slipped Disk* and *Neurosurgical Operation* and other medical science books he has authored exceed 20 in number. An *October 8 Model Teacher*, he is visited by many medical workers as well as students.

Kang Hye Ok

Competent Juvenile Sports School

THE JUVENILE SPORTS SCHOOL attached to the Yanggakdo Football Stadium is located on the Yanggak Islet in the Taedong River. In recent years it has produced promising sports reserves, drawing the attention of the sporting world.

Young Gold Medalist

Han Ye Ryong, 10, won first place in the women's individual singles of the table tennis event at the 53rd national juvenile sports schools' contest. Her quick and correct judgment and skilful and powerful left-hand cut, and her mentality of carrying out the game to the last in a responsible manner elicited the admiration of experts.

up to the second position the next year. He has brought up two winners of singles.

At the contest Han was acknowledged as a promising player, and later sent to a professional sports team.

New Record Breaker

Jong Jin Man, 15, distinguished himself at the 4th junior championships with an unbelievable record. Last year he won first place in jerk and second in snatch in the wrestling event of the 52nd national juvenile sports schools' contest. This year he won total victory at the 53rd national juvenile sports schools' contest, displaying his potential for good



She started to learn table tennis four years ago, and registered the records of winning third place in a year and a half and second soon after. This year she beat off all her senior rivals. Seeing her performance the experts said that Ye Ryong's win was attributable to her teacher's high ability and sincere effort. Her instructor Kim Kwang Hyok has a four-year career. Over the years he put the school's national ranking in table tennis from the eighth up to the fifth five months after he began his instruction, and then

reserve. Later, he established new DPRK junior records both in jerk and snatch at the 4th junior championships, thrusting himself into the limelight.

Jong's instructor O Kyong Jin, Master of Sports, says, "When I went to the Jongbaek Primary School in Ranganng District, Pyongyang, for selection of reserve wrestlers, I found a boy with good physical fitness running very fast. When I asked if he would like to join wrestling, he readily nodded his approval. The boy is Jin Man. He has never failed to fulfil the



training plan suited to the age and physical constitution of students, have a knack of controlling their psychology, and give training well to the tune of musical rhythm. Several trainees of his have broken DPRK junior records.

Master of Trophy

The trophy of the wrestling event comes into complete individual possession when one wins three consecutive victories. The members of the wrestling club of the school have got two trophies. They won the 43rd, 44th and 45th national juvenile sports schools' contests and the team event of Greco-Roman wrestling at the 2nd, 3rd and 4th junior championships, exalting the honour of the school with authority in wrestling. Many of students have been admitted to the sports teams as promising aces.

Ri Yong Nam, wrestling instructor with profound experience in international competitions, is well known for his strict and exact demands. He says, "I make sure my trainees write their diary. In the course of this, they learn to find their own merits and demerits in their training, and set a high aim and try hard to attain it. I put much emphasis on developing new teaching methods constantly to suit their age and implanting noble sportsmanship in them."

▶ training tasks I gave, and when I taught one thing, he grasped three or more. He is an honour student in all subjects including foreign language and mathematics."

The merit of O's instruction is to map out a

Rim Sang Jun



Single Heart on Ice Rink

LAST AUGUST RYOM TAE OK AND KIM JU Sik from the Democratic People's Republic of Korea won gold medals in the senior pairs event in the Asian Cup open figure skating tournament 2016 held in the Philippines. Thus the DPRK snatched the Asian pairs title again decades after its win at the first Winter Asian Games 1986.

New star

The singular characteristics of pair skating can be said to be the harmonious combination of the two players' movements along with their uniformity. Ryom and Kim attracted the spectators by displaying intricate yet ingenious and diversified techniques



Ryom Tae Ok and Kim Ju Sik.

such as a succession of graceful and gentle movements coupled with smart spins and jumps to the music. Thus, they became new stars in the figure skating world.

Ryom and Kim made their debut at an international competition in October 2015, where they qualified for participation in pair skating at the four-continent figure skating championships. Their high ranking at the championships held in March 2016 brought them a ticket to the world figure skating championships. They came within the top three at the Tyrol cup figure skating tournament 2016 held a month later. Their highest fame came a few months later at the Asian Cup open figure skating tourna-

ment. Reporting their performance foreign press expected their bright future.

Single heart

Kim Hyon Son, coach of Ryom Tae Ok and Kim Ju Sik, was far from a beauty, woman's peculiar merit, but was more of an individual character—she was strict and assertive. She says, "Originally Tae Ok and Ju Sik were players of the individual event. Two years ago, their individual skills were fine but they encountered a good deal of challenges because they could not ensure uniformity in their actions, the key factor in the pairs event. To be single-hearted was the only way to success."

Though Tae Ok and Ju Sik were both born and grew up in Pyongyang, there was a big gap between them regarding age, character and hobby. Tae Ok was of timid disposition but Ju Sik was a sociable character. Uniformity in action would be possible if they had repeated training, but sharing a single heart between the two players and between the players and their coach was the last thing to be attained through training.

In the days of training, Coach Kim came to know a unanimous wish cherished in their hearts—it was the same as hers. One day she was leafing through their training diaries, when she was shocked by Tae Ok's diary. It said, "One percent of talent plus ninety-nine percent of effort equals success. The biggest challenge is myself. I know I may fall one hundred times, but I will rise up a hundred times to win the Asian title and further the world title on the ice. Rim Tae Ok, you can do it. Nay, you must do it."

Ju Sik's diary read in part: one day he had a sore in his feet while training. So he put off his skate shoes and had a break for 5 minutes. After the day's training when he lay in the bed, he found himself unable to go to sleep because he was conscience-stricken. In the middle of night he finally leapt out of bed and drilled himself on and on in the training ground.

The diaries moved the coach and encouraged her to set a higher goal.

Under the care of Coach Kim, Ju Sik and Tae Ok worked hard and hard, and thus became able to make their international debut.

They had an accident a week before the international tournament—Tae Ok got an injury in her ankle—but they won their victory by dint of their will.

Now their target is the world title. To achieve it they are devoting themselves to training.

Kim Chol Hyon

Deaf-and-Dumb Twin Footballers

THE KOREAN DEAF-AND-DUMB SOCCER team has twin players who have just graduated from senior middle school. They are Kim Se Ung and Kim Se Chol, aged 17. One is a forward and the other is a back. They live in Sanop-dong No. 1, Songyo District, Pyongyang. Their father is an office worker at a construction company and their mother works at the Songyo Knitwear Factory. They learned three R's wearing new uniforms supplied by the State just the way ordinary children did. From the primary school days the elder learned fine art and the younger Taekwon-Do according to their aptitude and ability. As he got older Se Ung, the elder, admired other children in the football club.

One day, he felt eager to play football when he saw some children crying for the ball in a game. It was pity he could not communicate with them. He had no other choice but to shed tears alone, feeling as if the playground were receding from him gradually. However, he had no idea that there was some kind heart—the State saw to it that he was admitted to the deaf-and-dumb soccer team. It was beyond his expectation.

Some time later he began to play football in the deaf-and-dumb soccer team, and received basic training in football at a juvenile sports school during his junior and senior middle school days. In the course of this he took part in football competitions of juvenile sports school teams held annually across the country—three times. He was loved by his team for his sensitiveness to the ball and quick learning. They called on him whenever they had pleasant things. The warmer the friend's care got for him, the harder he tried to develop his special skill.

Meanwhile, he never missed the artistic training he had begun at primary school. When he was sketching a picture with a skilful hand, there were crowds of students around him. He received unanimous applause when he drew a picture on the wall newspaper. He often moved to tears to feel the kindness of his friends, teachers and neighbours who put him forward. He renewed his determination to be more active in football and drawing.

The younger brother Se Chol did not fall behind others in the school's Taekwon-Do exercises. When he was attending senior middle school, he often took part in national children's Taekwon-Do contests, and



Kim Se Ung and Kim Se Chol.

attracted the public gaze as he successfully broke wooden panels and tiles. After he finished senior middle school he chose to play football like his brother. When he asked to play football, they doubted whether he could do it, because he was unfamiliar to football, unlike his brother. But it was useless worry. He acquired a quick sense of ball like his brother and had the nickname of *Iron Wall* for his defending skill.

The boys' mother often says, "In fact I worried a lot about them. I was afraid they might fall behind others. And as they grew up I was anxious whether they were scolded for mischievous acts or laughed at by others. I feared they might bring about any accidents. Maybe, it was because they are disabled. But it was pointless fears. The country put them forward the way it does normal children. From the bottom of my parental heart, I appreciate our country. I believe my sons will repay its love with their brilliant success."

It is not only the mother's expectation but also her children's decision. They say that they want to make their happy life known to the world and that they will display the worth of their life in football games.

Sim Yong Jin

Flower Bed in Pothong River

WHEN YOU CROSS THE POTHONG BRIDGE past the Mansudae Street in Pyongyang, you can see an unusual flower bed on the surface of the Pothong River decorated with fascinating lights. This attractive flower bed has been built by a research team of Kim Il Sung University by applying the technique of artificial floating bed.

Researcher Man Ho Song told me, "In the course of the research work, we've learned that this technique is not only good for urban beauty and environmental protection but also brings economic profit as well." Then he continued his story.

Adding to landscape

Since the conspicuous flower bed appeared on the Pothong River, it has been adding to the beauty of the riverside and its neighbourhood. Filled with different kinds of full-blown flowers like *Tagetes erecta* and French marigold, it just looks like a beautiful picture. Bees and butterflies as well as birds flock there, adding to the public recreation. The anglers

are also glad as there is a growing number of fish around it.

One early morning when its keeper Pang Jong Ae was looking round the flower bed, she noticed something unusual in the bed. She went up, and caught sight of several carps jumping. They must have been there for spawning.

The night view of the flower bed is more fascinating. The lights of various colours are going well with all kinds of flowers, nourishing a hope for a bright future in the working people, who take a stroll along the promenade of Pothong River.

Better ecological environment and greater economic profit

Thanks to the flower bed, the water of the Pothong River is getting cleaner. A flowering plant usually purifies 24 litres of water a day. Hundreds or thousands of flowering plants in the water will make the scenery of the Pothong River much more beautiful and help change the river into one with no envi- ▶



► ronmental pollution. It also makes the air clean and refreshing. The vegetation purifies thousands of cubic metres of air per hectare.

In addition, it has a good effect on the ecological system. The smaller insects which live in the flower bed are the prey of bigger ones, which are in turn the prey of fishes. The excrement of fishes is absorbed by the plants. And floating flower bed is a good feeding and spawning ground.

Moreover, the artificial floating bed brings bigger economic profit. The cultivation on the bed needs no fertilizer at all and no weeding after planting, thus costing little efforts and money to manage it. It is possible to plant rice or vegetable there, and in that case the economic profit will rise considerably.

Now the research work is intensifying to positively introduce the profitable technique of artificial floating bed. Man Ho Song said, "Based on our research achievements, we'll help change not only the Pothong River but also all the rivers across the country into a beautiful sea of flowers and implement the intention of the Workers' Party of Korea to let our people enjoy the highest quality of civilization at the highest level."

Pak Thae Ho



National Food of Korea— *Sikhye*

SIKHYE IS A DISH WHICH IS PREPARED by fermenting chopped fish and sliced radish mixed with some seasoning. It is one of the favourite side dishes of the Korean people, which gives sourish taste and savoury odour and helps digestion of other foods.

Fishes with little fat such as pollack, flatfish and sandfish are usually used for the main material. To make *sikhye* you first wash the fish well and drain it. Then pickle it in salt (equivalent to 8–10% of the amount of fish). Chop the pickles into 1.5 or 2 cm-long pieces. Mix the chopped fish with cayenne pepper (2.5–3% of the amount of fish) and mashed garlic (equal to 1% of the fish), and put it into a pot. Leave it ferment for a week at the temperature of 10–15°C.

Pickle sliced radish in salt for a week before mixing it with cayenne pepper and garlic. Leave it ferment for two or three days. Now mix the fermented fish and radish at the ratio of 6:4 and put them in a pot tightly. Then close up the pot mouth firmly to check the air flow and let it ferment for a week at the temperature of 16–20°C. According to regional customs, boiled rice or malt powder may be added to let the dish ferment faster or have better taste. To produce unique flavour and colour of *sikhye*, it is advisable not to put too much water but leave the chunks barely submerged.

Sikhye is usually made in the traditional season of making kimchi for winter dish.

Ri Sun Nyo



Image of Ordinary WPK Member

ON JULY 11 LAST, *Rodong Sinmun*, the organ of the Central Committee of the Workers' Party of Korea (WPK), carried an article headlined "Phoenix in the Era of the WPK." It reads in part: "Ri Phyoung Gyu, Labour Hero of the Democratic People's Republic of Korea, is a worker at the Sagok Light Labour Management Board in Taedonggang District. He was declared to be dead 38 years ago, but he is still alive though bedridden with paralysis of the lower half of his body. Over 70 now, he has dedicated himself to the cause of patriotism holding the hammer firmly in his hand for a long period of time since his thirties, the prime of his life. At this time he is proving with his phoenix-like life what kind of people are the heroic working class of Kim Il Sung and Kim Jong Il, the workers who hold fast to their blood ties with the WPK."

Not long ago, a *Korea Today* reporter talked with him. Excerpts:

In May 1978 Ri Phyoung Gyu was diagnosed with paralysis of his whole body due to slipped disk and myelitis. Fortunately, he was relieved of the paralysis of his upper body, but not in the lower half which is essential for walking. He was finally diagnosed with paralysis of the lower half of his body although he had been treated in his hometown in Pyok-



Labour Hero of the DPRK Ri Phyoung Gyu (right).

song County. All his energy seemed to have gone with the diagnosis. It was heart breaking to hear all kinds of sounds that used to be enjoyable in the past—laughter of farm workers on their way to fields, buzz of tractors plowing the field and singing of children on their way from school. It seemed as if he had been ejected out of the dynamic current of life. It was quite a torment. Then suddenly he thought of his past days.

He was born the year Korea was liberated from the Japanese military occupation (August 15, 1945), the year the WPK was founded (October 10, 1945). In the country led by the WPK he accomplished all his hope, singing the song *We Are the Happiest in the World*. He learned to his heart's content free of charge and

became a driver as he wished, driving all across the country. He was honoured to be admitted into the WPK, which every Korean considers as their greatest glory in their life. The day he was admitted into the Party, he pledged to keep the honour of the Party membership to the last moment of his life.

Recollecting his past, Ri said to *Party member Ri Phyoung Gyu* in his heart, "Here goes. I must survive to show how tough the WPK member is. I must survive to prove the true member of the working class does his work on the strength of his political integrity rather than his physical life."

Days later he returned home to Pyongyang and found a job in a maintenance service company in Taedonggang District. He found and did whatever he could give his

▶ country, what little help he could.

One day, an official of the then Korea Science and Education Film Studio visited him on his sickbed. He blurted that several trucks of the studio were not in operation because their dynamos were broken. Those trucks were treasures for Ri, as valuable as his own flesh and blood, which he had looked after while working in the transport shop of the studio as manager. Never could he reject the fact, so he exerted himself in the unfamiliar work of dynamo repair. Studying even the middle school's physics textbooks to make up the lack of knowledge, he finally repaired a dynamo after several failures. It took him a month to repair a dynamo which was not bigger than a football. However, he was in an ecstasy of joy as if he had achieved a success which nobody could attain in their whole lifetime.

Now he began to work as an auto repairman. It was not an easy job for a disabled person who was paralyzed in the lower half of the body to mend dynamos, the job which needs a high degree of accuracy and cleanness. He had to ask for help from their family members even when he wanted to take a tool lying out of reach. When there was nobody around, he had to crawl across the floor with his two oil-stained hands. On Sundays his wife and sons went to a machine factory carrying heavy dynamos on the back to have the stators and rotators disassembled. On workdays the youngest daughter used to lend a

helping hand on behalf of her mother and brothers who were busy with their jobs.

Ri had a lot of ulcers. Some areas had six to seven, even a dozen at a spot. He laughed off worries of the people about the ulcers, saying he felt no pain. In reality he constantly suffered from slight fever and sometimes lost consciousness due to high fever. However, encouraging himself, he has covered a long way that would be difficult even for ordinary persons. He has repaired a lot of dynamos and starters of trucks mobilized for important projects including the Kwangbok Street, the Thongil Street, the May Day Stadium, the Nyongwon Power Station and the Huichon Power Station. He has trained a lot of repairmen who are working at major construction sites and important transport companies. He has also given material assistance to hundreds of construction sites, projects, cooperative farms and military units.

Officials of the Taedonggang District Committee of the WPK and medical personnel in the district have actively helped Ri. The Party officials built a new dynamo repair shop in front of his flat to save his troubles in working in the living room with his family. They often visited him at home, learning about his condition and solving whatever trouble he had. Medical personnel often brought him medical supplies.

In August 2003 Ri was awarded the title of Labour Hero of the Democratic People's Re-

public of Korea. With his horny hands indelibly marked with grease and smelling of diesel—for he had repaired more than ten thousand dynamos and starters—he held the Certificate of Hero sobbing in excitement. The official, who had put the certificate in his hand, pinned the medal on his breast. His eyes were blurred by tears, but he clearly felt the warm care of the motherly Party that had been his kind-hearted guide. Flashing across his mind were the images of the many Party members and officials including his Party cell secretary who used to inform him of the Party policies and an official from the Party Central Committee who had tearfully praised him as a loyal Party member and a true patriot, stroking the diseased areas of his body. It was the image of the Party just like his mother giving him courage and leading him at every step whenever he was weak-minded or hesitated.

That day Ri made a firm determination to follow the Party, the great guide of him, to the end of his life.

Later, the small repair shop changed beyond recognition. There Ri has repaired more than 8 000 dynamos and starters of trucks with his two sons. His elder son is now a deputy to the district People's Assembly.

Visitors to the Thapje Dynamos Repair Shop in Taedonggang District see Ri work lying on his belly. He is an ordinary member of the WPK.

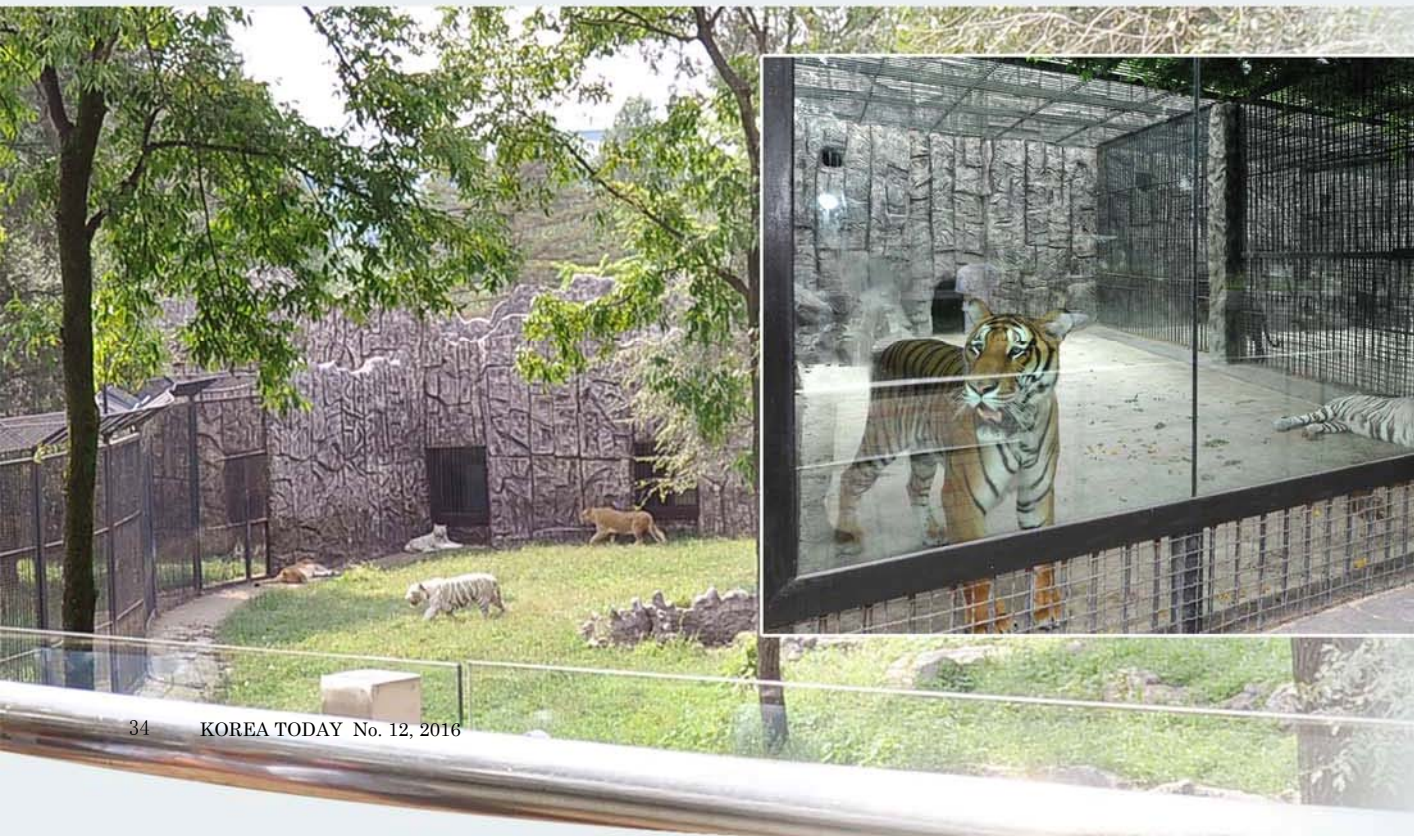
Yom Song Hui

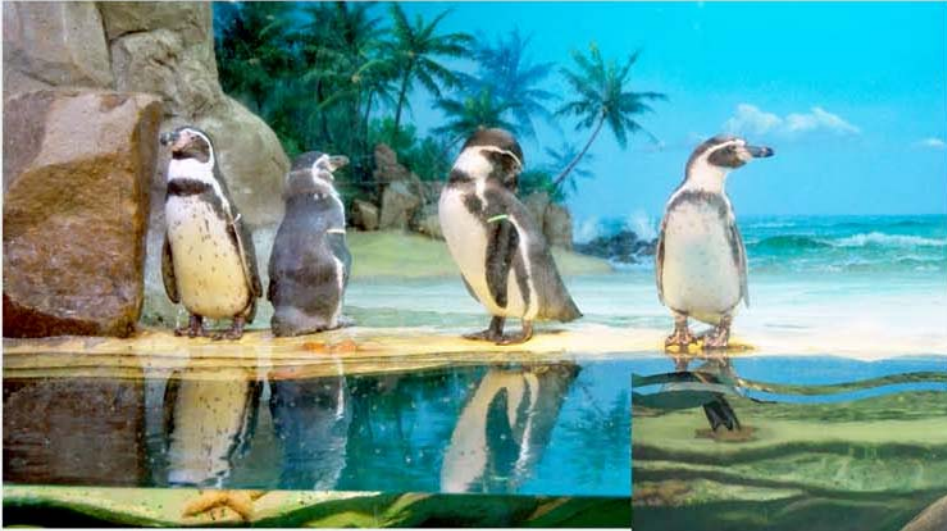


Central Zoo (2)

WE WENT OVER TO THE PENGUINS house following Guide Kim Hyang. The house seemed to be in the middle of the ice caps of North Pole for the good harmony of white and blue tiles on the outer wall. Approaching it we felt cool at the picture of icicles hanging so perilously as if to fall into the blue sea at any moment. Kim Hyang introduced Kim Kwang Su, head keeper of the penguins

house, who was waiting for visitors in front of the house. Kim led us and other visitors to the pool where penguins were toddling around. The pool was divided into a warm tank and a cold one. He told us in detail about kinds of penguins and their features. He said that the penguins there in the zoo are Humboldt penguins from the subtropical zone, which were named after the man who had discovered an ocean





Humboldt penguins.



► current inhabited by penguins. The visitors were struck with admiration to see the penguins cleave the water like a submarine and catch fish with surprising agility.

Now we went to the beasts of prey house. There Korean tigers, Bengali tigers and white tigers were strolling around majestically. There we met Kim Sun Ok, the house keeper, who had been honoured to meet the supreme leaders Kim Jong Il and Kim Jong Un of the DPRK several times. She said she had been taking care of the beasts for decades, that she could easily distinguish their content from discontent and that whenever she appears in front of

them, the tigers stand with their forelegs up to express their welcome.

We also visited the wolves house. There we saw an elderly woman cleaning the ground sharing friendship with the wolves. We could not but doubt whether they were really wild beasts. Talking to the keeper after she had finished the cleaning, we were relieved of the doubts. The 53-year-old woman, Kim Hwa Sil by name, had been taking care of the wolves for 36 years. She said that as wolves are unable to look after their cubs well the keepers feed the young on milk. So the wolves are familiar with the keepers. And she added that she scolds them sometimes when they don't obey her and that they attack people sometimes as befits their name. She said she had raised lots of wolf cubs and sent them to local zoos.

And we visited the dogs house. According to Kim Hyang, the house was shaped like the dog's foot. Since one of the five toes of one foot of the dog is useless the house is laid out to have four wings around the resting site which is capped like the sole of the dog. According to Ri Chang Hyok, head keeper of the dogs house, there is a fine central control sys-



The beasts of prey house.

► tem in the house, which adjusts the room temperature. He said his house had over 150 dogs of 45 kinds in all and that in Wing No. 1 and No. 4 were pet dogs and in No. 2 and No. 3 were working dogs, hounds and feral dogs. He led us to the house of the Korean national dog Phungsan. Phungsans come from Phungsan County (Kim Hyong Jik County at present), Ryanggang Province. They have pleasant appearance and thick and strong hind legs, with which they can run well in mountains. They are very obedient to their master. When they encounter a rival they attack ahead of other hounds and can fight with even a wild boar that may weigh over 200 kg. Though small, they can manage to knock down German

Shepherds as big as horses.

There we met Jo Hyon Myong, pupil of the Raengchon Primary School, Tongdaewon District, who was laughing loudly at small pet dogs. It was good to see big dogs, he said, but he liked small pet dogs more since he was a child. He added there are a lot to see in the zoo and he would often come to see the animals.

We went upstairs in the house. There the dogs were being trained for race. They were running over hurdles valiantly, like horses in a battle. Leaving the dogs behind, we headed for the animal circus.

Sim Chol Yong



The dogs house.



His Heart

By Pak Yun

(Continued from the last issue)

“MR. CHOE,” MA called, but was interrupted.

“Mr. Ma,” Choe ordered. “Detach the researchers from the Koryo medicine department before the day is out. Send them back to their regular work. This is what I’ve discussed with the ministry. If you don’t obey, you have to undergo an inspection. I am serious.”

“I... see,” Ma murmured his reply, his forehead and nape all covered with sweat.

A stifling silence reigned in the room. The eyes of the three people turned to the door when it sounded open. Ma gave a sigh of relief, which got on Rim’s nerves.

“Mr. Choe,” addressed Party Secretary Pak Chol Jin entering the room with a fresh cool air of early spring. “You are also a man of academic origin. I wish you wouldn’t be obstinate to push the wall as you do the door. You mustn’t be afraid of the new without any consideration.”

Choe forced himself to smile at him at first, but he frowned in a moment, cutting the air with his hand which had been stroking his breast.

“Don’t try to play a trick with me,” he blurted out. “You have come at the right moment. The unfamiliar aren’t always the new. A pumpkin can’t be a watermelon even if it produces vines itself. I’m afraid you’re too much interested in administration affairs.” The true cold manners were to be found about Choe. Pak opened his bag sitting down on a chair, and said, “Mr. Choe, I hope we’ll rather think of the patients than start up an argument. Recently

we have organized an intensive treatment using the medicine Rim has developed. Hundreds of volunteers received the treatment in xx hospital, and the medicine turned out so effective. Now, look. The effective ratio has been estimated at between 78.5 and 93.2% in the treatment of cerebral thrombosis, cerebral arteriosclerosis, autonomic nervous disorder, angina pectoris and cerebral concussion sequela.”

Then, Pak cast a light smile to Rim standing nervous at the doorway. Instantly Rim’s eyes went watery. Choe turned over leaves of the document Pak had handed over to him, before throwing it to Ma who was trying to steal a glance at it.

Then, he declared, “What is important is to know in what stage of symptoms the patients began to receive the relevant treatment. The investigation report of my department reads that it has some psychological merits over the offensive Western medicinals but that there is no effect in most of the cases. After all, we cannot recognize the CGF in scientific terms.”

“Enough!” called out Pak. “The authoritative xx hospital gave a scientific verification using a computer program developed by head of the physiotherapy department Kim Kyong Ho. According to it, the special material for growth stimulation is an amazingly effective immunity activator. Its inventive and curative values have been clarified through up-to-date screening and functional diagnosis and experimental diagnosis.”

“I don’t believe it,” Choe declared in the nasal twang of his voice, his eyes down.

Pak could no longer contain

his temper. He banged the desk with his fist. Ma, carefully reading the papers, was surprised, and raised his head. Rim kept standing silently.

“Mr. Choe,” Pak said angrily. “What kind of person are you? Why are you so persistently against the clinical application of the material when it may bring good health to people? I’ve just been fully relieved of the long-term sequel of war wound thanks to the medicine. You don’t believe the confirmation of the hospital? You know, sea water tastes salty wherever you taste it. You cannot deny the truth. Just answer me. What was the purpose of the essay you published in the medical magazine?”

“It was about dynamic composition of the theoretical direction and development of biomodulation-oriented medicine. Theory is one and practice is another.”

“Listen, what’s the use of theory apart from practice?”

Uncompromisingly acute eyes encountered at one point.

The next morning an inspection team of the department swooped on the hospital.

The world is the darkest just before daybreak.

I was strolling with Rim at the foot of a grey cliff along the shore of the Taedong River. The sun was falling in the far west. The stout man of medium height with neatly tidied hair stepped onto a rock and gave his hand to me.

“Mr. Writer, be careful,” Rim said with a smile, revealing his white teeth.

How is it that this man looks young when he is nearly fifty? I wondered.

“Mr. Rim,” I addressed him, ►

► “some time ago I sent a box of the medicine—you had left for me—to a reviewer of the writers’ union. His wife had been bedridden with digestive disorders for nearly ten years. One of these days he visited me at home, and said that after using your medicine his wife finally got well and now she could even go shopping. I received his gratitude on behalf of you.”

“You did a good job,” Rim said. “One of my comrades-in-arm, named Jon Sang Chol, is the manager of a coal mine in the northern part of the country. He had nearly given up his place because of his cerebral thrombosis. But after using our medicine, he shook off the illness completely. He has sent me several letters to tell it. Ha, ha... From now on I will help you receive greetings of thanks all the time.”

I laughed shaking my hands. “You want me to warm myself at your fire? As head of the branch academy Son recommended, I have read the newspaper articles about your research work and the comments from home and abroad. One of them goes, ‘This is a functional health food that has opened up a road to biomodulation-oriented medicine, the world’s desire, through the control of the hypothalamus of the brain with the use of an immunity activator which was newly developed on the basis of the achievement of the advanced molecular biology and a traditional remedy of Koryo medicine.’ This means controlling the central nerve. In other words, it means controlling the balance between sympathetic and parasympathetic of hypothalamus, right?”

A bright smile spread all over Rim’s face, his eyes winking at me. He said, “You’ve been so tenacious to learn, and you have now got a good knowledge of our field. Considering it at this point, our research work has just begun.

I am going to widen the research domain to anti-radioactivity treatment and prevention of the stress from the use of computer. Well... are you really going to write a story?”

“Sure.”

“Then I’d like to advise you to avoid scientific and technical matters. I think readers want to see the result alone.”

I shook my head obstinately. I said, “Readers pay more attention to the process than the result. Of course, I am going to ignore the special research process. Because I have scant confidence in it and it may cause irksomeness. I just want to say that a warm heart of a researcher can make a great and fresh thing!”

The evening Rim got a patent of his invention from the Invention Bureau of the State Academy of Sciences, Kim Chang Sun, well over 70, came to see Rim at his home in Uiam-dong with a large plastic bag in his hand.

“Sin Hae, show me your patent certificate, please,” Kim demanded

“It is also associated with your effort and exploit,” Rim appreciated.

“Don’t mention it. You know, too much modesty can be taken for pride. This is a proud result of your painstaking effort for a long time. I just helped you. Everybody’s happiness is my happiness.”

Kim, without wearing glasses, held out both arms to look at the certificate.

“Umm, the Democratic People’s Republic of Korea... patent... date... this is really a happy event. The patients must be happier. Did you hear about Choe Jang Su? He had been bedridden since he gave up his place because of his angina pectoris. But taking the medicine you sent him he has now got well. Streams have their

own course to follow. Rim, let me propose a toast to you. Please!”

“No, thank you,” Rim declined. “I have just received a call from the Party secretary. He’ll be here at any moment.”

“Umm. Then I’ll wait and congratulate you together with him. Kyong Hui, I know you have had troubles helping your father since you finished the surgical college. I appreciate it. And, Sol Hui, you also ought to congratulate your father by singing, eh?”

The Party secretary stepped in excitedly after Director Ma. Rim sprang up.

“Rim, we’ve got good news,” said the Party secretary. “The Party organization’s decided to enroll you in the army again and put you in charge of a medical group of the army.”

Rim and his wife looked at each other warmly. The people around were tearful. Probably, true happiness finds expression in tears alone.

Sol Hui sang a song in a tender voice playing the piano with a smile on her face.

Comrades, let us sing a song.

With tearful eyes, Rim was listening to his daughter singing a song, who was a student of the Pyongyang Art School. Amidst the tears he was recollecting his past: the path at the military post with fully-bloomed red primrose flowers alongside, the frontline motivation car, and the smiling image of squad leader Kang Chang Mo.

The white paper boat has become a white beautiful and powerful steamship, and it is now cruising the ocean. Pretty girls are waving their hands at the handrail, their blue skirts fluttering in the wind. The steamship is shining beautifully in the bright sunlight. The path stretches as far as you could see past the horizon.

(The End)

Whistle in Mountains

ASPECTACLE OPENED RECENTLY IN THE Ryongwol Reservoir in Sinwon County, South Hwanghae Province. New school ferries *Happiness Nos. 1 and 2* began to travel taking the children of mountain villages to and from school.

Seeing their children waving good-byes with delight aboard the boats sailing across the reservoir, all the parents and other villagers were beside themselves with joy.

O Sun Ok, official of the county administration, said to me, "The Ryongwol Reservoir was built in May last. So the pupils had to cross the reservoir by small boats or walk round it to go to school. Heard of the situation, the provincial and county officials saw to it that school ferries were built for the children. They are all very delighted." Then she told me a story.

One morning in May last Pak Yong Ho, a provincial official, was looking round the new reservoir. He noticed a crowd of people crossing the reservoir from afar by a wooden boat. When they came closer, he saw they were all schoolchildren. He wondered why they were so late at school. Talking to them, he knew why. They were attending the Ryullari Senior Middle School, who used to go to school by wooden boats. There were three small vessels when there were as many as 112 pupils to be carried. The travelling distance is two kilometres and it took 50 or 60 minutes to cross the lake. It took nearly three hours to transport all pupils. When the boats could not work for some reasons, they had to go to school on foot round the lake. They had to leave home at seven o'clock in the morning and it took one hour and a quarter or nearly two hours to get to the school.

Pak immediately proposed to deal with the problem of making a school boat as a provincial matter and took charge of it himself. Learning of it, other provincial officials obtained lots of necessary materials including steel sheets and welding rods and sent them to the Haeju Dockyard.

Pak often went to the factory to encourage the technicians and workers to build the school boat as soon as possible and solved different problems for them. Having noticed that the materials like the cement were insufficient in the wharf project he tackled the problem himself at once to build two wharfs in a short span of time.

When the manufacture of the school boat finished in mid-July, he saw to it that an LCD TV, solar cells and batteries were installed in the boat so that the pupils could travel without any inconvenience.

At last, the school boat *Happiness No. 1* started its operation on July 17. Ri Yong Ok, farm worker resident at Neighbourhood Unit No. 18, Ryulla-ri, Sinwon County, said, "In the past we were worried about our children when they went to school by small boats. The more so when it was rainy or windy. But now I've nothing to worry as the wonderful school boat is in operation. Indeed, ours is the best socialist system."



Soon, another school ferry *Happiness No. 2* was purchased by the Sinwon County officials for another 25 pupils in Ryongwol-ri. Whenever Pak receives greetings of thanks from the inhabitants, he says, "You know I'm an ordinary official working for the people. I've just tried to convey the Workers' Party of Korea's loving care for younger generation and future to the pupils in the mountain village."

Kim Myong Sim

Mt. Myohyang (1)



Mt. Myohyang wrapped in clouds.

MT. MYOHYANG, ONE OF the celebrated mountains in Korea, embraces a wide area of Hyangsan and Kujang counties in North Phyongan Province, Nyongwon County in South Phyongan Province and Huichon City in Jagang Province.

The mountain is a complex of multifarious, magnificent scenic wonders and myriad-shaped natural sceneries. It has been cut by repeated external and internal geological actions like the crustal movement and action of the weather for a long time. The rocks in the mountain are clean and beautiful as well as unusually white in colour and equal in quality. They contain a lot of solid quartz ingredients that are not soluble in water. So the broken pieces are also clean and the water rising from the crevices of rocks and running down ravines

is very clean and clear.

Surrounded with high range of peaks, the area of Mt. Myohyang is relatively warm with no strong wind. Rising 1 909 metres above sea level, the mountain has a long history of development. It began to be called Myohyang in the early 11th century for its wonders and fragrance. Earlier it had been called Mt. Yonju as it belonged to Yonju County. Later from the middle of the period of the Koryo dynasty (918–1392) they called it Mt. Thaebaek as its rocks are very white and clean. In the area of Mt. Myohyang is to be found rich vegetation including the plants common in northern and southern regions and those growing in the low and high areas. These plants change their colours from season to season and their blooming time is varied, thus beautiful sceneries are unfolded all the year round.

For a good inhabitable condition, there are various animals: In the forests are to be seen more than 30 kinds of wild animals like bear, antelope, musk deer, roe deer, hare, badger and raccoon dog; in the mountain are to be found some 130 kinds of beautiful and rare birds including pheasant, migratory grosbeak, lark, oriole, greenfinch, scops owl, Eastern gray wagtail, woodpecker and cuckoo. Various fishes—like rainbow trout, char, sweetfish and minnow—live in Hyangsan Stream.

From time immemorial, the Koreans counted Mt. Myohyang as one of Korea's most celebrated mountains with distinguished sceneries. They used to compare fantastic mountains to Mt. Kumgang and the magnificent ones to Mt. Jiri. However, Mt. Myohyang is well known as the



Poryon Rock in autumn.

► one with both the fantastic and magnificent qualities. Renowned for its “eighty four thousand peaks” from ancient times, it has distinguished sceneries—lots of magnificent and fantastic peaks, giant rocks, deep ravines and high cliffs, crystal clear water, many waterfalls, thick forests, luxuriant trees throwing cooling shades

in summer, burning red maples in autumn, frostwork in winter as well as chirps of birds and sounds from shallows.

The mountain has been a pride of the Korean people for ages. They picked eight of the most scenic spots as the “eight beauty spots in Mt. Myohyang.” For its singular geographical features

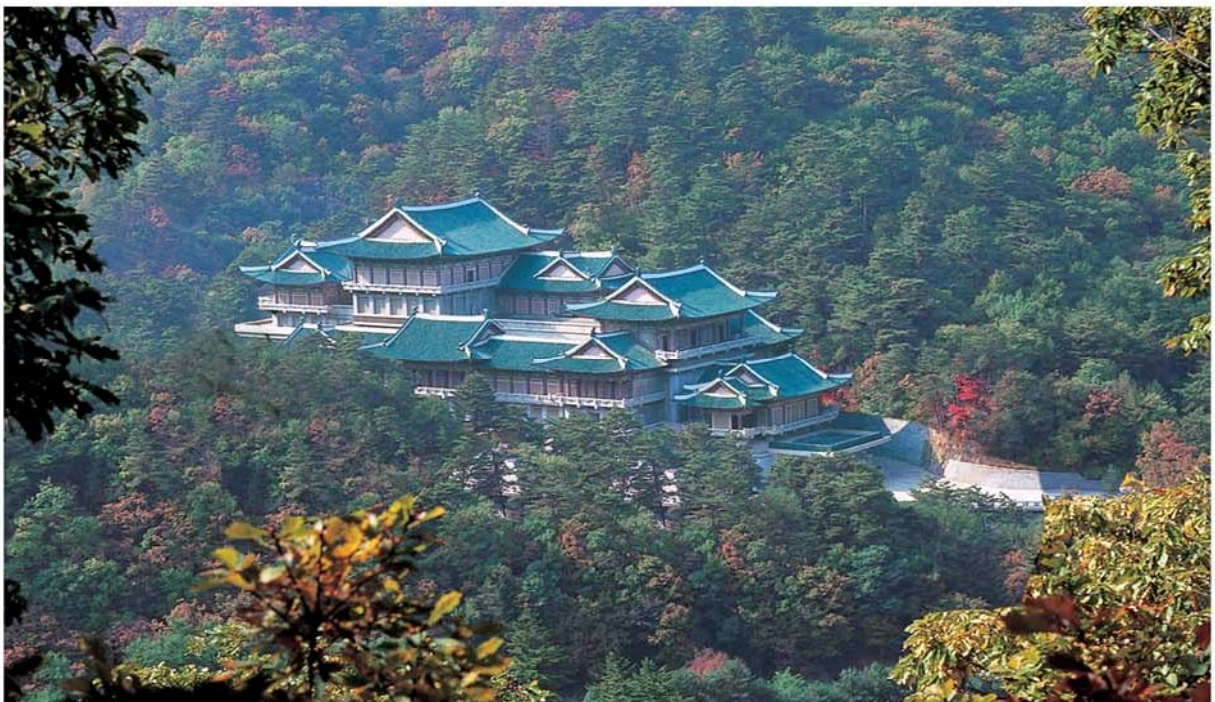
and natural beauty, the mountain is not only well known around the world as the most noted one but also associated with the patriotic struggle of the Korean people against foreign invaders.

It also has a good deal of cultural heritage which show the cultural and artistic skills and creative ability of the Korean nation. In the mountain grand monumental edifices like the International Friendship Exhibition House have been erected in the era of the Workers’ Party of Korea, thus the Myohyang has become a greater resort.

Well furnished as a mountaineering resort and a tourist resort, the mountain has several facilities—Myohyangsan History Museum, Hyangsan Hotel and Myohyangsan mineral water—for tourists and campers. There are laid mountaineering courses to the ravines of Sangwon and Manphok and Piro Peak, and safety arrangements, resting places and pavilions are well arranged in good harmony with the local scenery along the courses.

Pak Thae Ho

The International Friendship Exhibition House.



World's First Metal Type



Metal types unearthed in Manwoltae and *Jikjisimgyong* printed with metal types.

THE FIRST METAL TYPE OF THE WORLD belongs to the creation of the Korean nation. It is associated with the history and culture of Koryo, the first unified state of Korea. In the course of uninterrupted, intensified survey and excavation of historical sites and remains a metal type was unearthed in 1956 at Manwoltae in Kaesong, Korea, where the royal palace of the Koryo dynasty stood. Another one was dug out in November 2015, which is 6mm high, and 13.5mm long and 14mm wide on the side of an embossed letter; the back side of it has a semi-globular gouge.

In mid-April last another four metal types were unearthed in the area west of Manwoltae. They are *chik* meaning the water flowing, *jo* meaning wine lees, *myong* meaning name and another *myong* meaning bright eyes. The one meaning bright eyes is smaller than others, and the other three letters are of the same size as those discovered earlier. The calligraphic style of letters *jo*, *chik* and *myong* (name) are almost the same style as those letters found before, and they are considerably delicate and elaborate.

Typical of the metal-type printed books which still remain are *Nammyongchonhwasangsongjungdoga*, a Buddhist book printed in 1076, and *Kongjagao* in 1317–1324.

The earliest record on the metal type ever found is *Tonggukrisanggukjip*, a collection of works written by Ri Kyu Bo (1168–1241) who was a famous literary man in the period of Koryo. It gives the fact that 28 copies of *Sangjonggogumrye* (50 vols.) which de-

scribes in detail about state and social regulations of Koryo, regulations on etiquette in particular, were printed with metal types in the period of 1234–1241. *Koryosa* (History of Koryo) writes that the feudal government of Koryo established a publishing office between 1047 and 1083 which was exclusively in charge of metal type printing. This means that the Koreans invented and used metal types in the late 11th century—the early 12th century.

According to a record, metal types were invented in the Netherlands in 1423 and in Germany in 1450. The invention of metal types in Koryo proved to be 200 years earlier than the European ones. In 1972, the exhibition *History of Books* was held in Paris, France, as an event of the Year of International Books under the sponsorship of UNESCO. On display at the exhibition was the second volume of the Korean history book *Paegunhwasangchorokpuljojik-jisimcheyojol* (abbreviated as *Jikjisimgyong*), and it was recognized as the first material printed with metal types in the world. The fact that the book was printed with metal types is to be verified through the statement written in its last chapter that it was printed with types made by casting metal at the Hungdok Temple, a Buddhist temple in Chongju, North Chungchong Province, in July 1377.

Through the exhibition it was recognized that the Korean nation invented the metal type for the first time in the world.

*Ri Yong Sik, PhD in History,
Kim Il Sung University*

National Intangible Cultural Heritage (1)

IN THE DEMOCRATIC PEOPLE'S REPUBLIC OF Korea close attention is paid to the effort to protect and develop the admirable cultural heritage of the nation. In 2016 alone a number of things were added to the list of national intangible cultural heritage. The new items registered belong to the social customs and etiquette, working-life customs, traditional medical art, traditional cuisine and table manners.

Tongjihatjuk

From of old, Koreans called lunar November *Tongji Month* and the day with the longest night of the month *Tongji Day*. *Tongji* means winter. According to old books, *Tongji* celebrations were first registered during the time of the Koryo dynasty, but the fact that days and months were calculated by the lunar calendar from before the Koryo dynasty proves that it is a folk festival that had long been celebrated

before the time of Koryo.

On the *Tongji Day* they had a special porridge. It is a food made from adzuki-beans cooked in water with small balls of white rice powder. The ball as small as a bird's egg was called *Saealsim* (bird-egg core), *Tonggrangdongi* (round lump) or *Ograngdongi* (O-shaped lump). So *Tongjihatjuk* was called *Tonggrangphatjuk* or *Ograngphatjuk*.

It is said that you can avoid the cold only when you have adzuki-bean porridge on the *Tongji Day*. The remark derives from the advice to have as much adzuki-bean porridge as one can since it is very nutritious, easily digested and specially good for health.

It is very popular for its unique taste with the harmony of palatable adzuki-bean porridge and glutinous balls.

Following the national tradition all the family members get together on the *Tongji Day* and share the special food with relish.

Kim Chol Hyon



Human Rights Tundra

THE UNITED STATES IS fancying itself as “human rights model state” while clamouring for “freedom” and “democracy” in the international arena. But nobody acknowledges it. It is a conventional method of the US to force American-style “freedom” and “democracy” upon other countries and indulge in intervention in the internal affairs of other nations and act of aggression. But actually in the American society the rights of citizens are trampled down by the anti-popular judicial system. It can be proved by the fact the

police is a notorious culprit of violence and human rights infringement. They kill civilians with guns on the street in broad daylight instead of checking crimes and keeping public security.

On the evening of February 27 last in Salt Lake City of Utah a policeman found a 16-year-old boy talking with his friend standing face to face in the street. Shouting at the boy to turn back, he fired blindly. The boy got seriously injured in his chest and belly, falling down. Witnessing the innocent boy falling a victim of the

police violence crowds of citizens condemned the shooting and staged demonstrations, throwing stones in anger. Instead of apologizing for their crime, the police cracked down on the demonstrators and randomly arrested them. The US police have ill fame of “tyrannical police” and “murderous police” as they are more outrageous than gangsters, and the aforesaid barbarous shooting is a tip of the iceberg.

According to the statistical data released by the American newspaper *Salt Lake Tribune* the number of people killed by the



► police on the streets exceeds those murdered by gangs or drug smugglers from 2010. *The Washington Post* revealed that the police shot nearly 1 000 innocent civilians to death last year, and that the number is two times greater than the annual average record made public by the US Federal Bureau of Investigation each of the recent ten years. In particular, in December 2015 recorded as “the bloodiest month of the year,” 88 people were shot to death by the police, and some 20 of them were killed during the last five days of the month. Scared at the rampant

Americans protest against police shootings of black people in Washington in July 2016.



violence of the police most of the Americans are living in uneasiness and fear.

It is also the police that is aggravating racial strife through black hunting. Last year the number of blacks killed by the police is three times greater than that of whites. A white policeman mercilessly shot a 19-year-old black man to death in Madison, Wisconsin, and the police in Baltimore, Maryland, took an innocent black young man to a police



station and tortured him for a week until they broke his spine to death. Enraged by the barbarity, black people launched a protest in Madison and Baltimore, which spread rapidly to Washington, New York, Boston, Minneapolis, Indianapolis and other cities and regions across America, sometimes turning into riot. The protestors marched along streets holding placards bearing such words as “Stop police brutality and murder,” “Don’t shoot” and “Black lives matter.” The demonstrations and rallies shook the American society as a whole.

The atmosphere of protest against the man-hunting police is surging high as blacks are murdered by the white policemen incessantly. What cannot be overlooked is that the juridical authorities are shielding the white policemen from prosecution for the crimes on the absurd pretext

of “on official duties.” According to data, 26 of 28 medical examiners of the FBI, testifying in court, exaggerated examination results in favour of the prosecuting attorneys for nearly 20 years from before 2000. This fact was evident in over 95 percent of 268 cases of judgment reviewed.

The number of innocent people killed by the police is on the increase every year, but few policemen have sat in the dock on the charge of murder or received a

verdict of “guilty.” Due to the unjust sentences of the juridical authorities the criminal acts of the police are going from bad to worse. Protesting against racism the masses cry out that the juridical system of the United States is not for the general public but for the police, and that that is the reason why the police is bringing troubles alone at will. The police shoots bare-handed people to death in broad daylight and the juridical authorities deliver a verdict of “not guilty” to the murderers—this is the very American society ruled by injustice.

All these facts clearly show that “freedom” and “democracy” advocated by the US rulers are no more than a deception and that the US is the worst human rights violator in the world.

Ko Un Byol

Who Wants THAAD?

IN JUNE LAST THE United States decided to deploy THAAD in south Korea. It instantly plunged south Korea into a whirlpool of conflict, and incurred strong opposition from the neighbouring countries. In this context Washington argued that its deployment is aimed at coping with “north Korea’s nuclear and missile threat,” not at China or Russia, and that the radar of THAAD to be set up in south Korea is not a type of “forward deployment” with long-range detection power, but a type of “terminal stage” with a shorter range.

If so, who wants THAAD? The detection range of THAAD’s radar reaches nearly 5 000 km. If it operates in south Korea, strategic objects of Russia, particularly those in China, unavoidably fall under Americans’ watch. Considering this fact, its deployment in south Korea is surely an outcome of the US’s military strategy aimed at neutralizing the strategic nuclear forces of China and Russia and taking supremacy in the region.

The planned deployment of THAAD in south Korea is part of the implementation of the US’s aggressive policy of attaching importance to the Asia-Pacific region. The gist of it is a defence strategy, that is, holding supremacy and lording it over in the Asia-Pacific region by means of its power. In its national security strategy made public last year the

US made it clear that there is no change in its strategy to get hold of the region, and that it will realize it through military force. But, judging that it could hardly prevail over its enemy with its armed forces currently deployed in the region, the US is scheming to form a military bloc with its vassal states and establish a semi-circular MD system to encircle China and Russia. And it is seeking to organize an Asian-version NATO centring on the tripartite military alliance of the US, Japan and south Korea in the future and form an expansive MD system so as to make an encirclement ring around Russia and China.

In a word, it is the intention of the US to deploy THAAD in south Korea and watch the deeper interior of China and Russia in order to carry out a preemptive strike against any region at any time. Military operations plans are being mapped out in this direction.

Owing to this, a new cold war is just taking shape in the Asia-Pacific region. In its article headlined “The United States and south Korea need to realize the profound message of the serious warning of China and Russia” the Chinese newspaper *Renmin Ribao* wrote as follows:

“The deployment of THAAD in south Korea is part of the US’s plan for global-scale MD system. It is aimed at posing a menace to the Russian nuclear forces and

containing the Chinese nuclear forces. It is a definite and steadfast stand of both China and Russia to oppose any attempt of outside forces to intensify its military presence in Northeast Asia and establish a new MD system in the relevant region. The countermeasures of the two countries, which the US and south Korea cannot predict or cope with, against their obstinate deployment of THAAD are geared to protecting their security and interests. If the US and south Korea fail to realize the profound message of the serious warning of China and Russia and push the deployment plan without any heed to the warning, they ought to bear responsibility for the consequences of their reckless moves.”

And Chinese *Xinhua* News Agency commented that if THAAD is deployed in south Korea, it will destroy the strategic balance of the long-standing peace and stability in Northeast Asia, give rise to a new arms race and confrontation with strategic countermeasures to be taken by China and Russia, and, worse still, result in emergence of another frame of cold war.

The situation in the Asia-Pacific region is running to the extreme. This is posing a serious threat to the global peace as well. The danger of a nuclear war on the earth is not far off.

Kim Il Bong

Imperialist Japan's Scheme for A-bomb Development and Massacre of Koreans (1)

JAPANESE POLITICIANS are styling their country as peace-loving state that earnestly desires a nuclear-free world and “responsible state” that is leading the effort for its realization. Japan stores a huge amount of plutonium enough to produce more than 6 000 nuclear weapons, but it is still refusing to give a clear answer for the purpose of its storage. Arming itself with nuclear weapons is Japan’s strategic aim in its ambitious campaign for military power to realize its old dream of “Greater East Asia Co-prosperity Sphere.” The *Korea Today* editorial board introduces some data about Japan’s secret campaign for A-bomb development and crimes of massacre of Koreans during the Second World War.

Japanese back-door plans for A-bomb development

It is barely known about secret plans that Japan followed to develop nuclear weapons from the late 1930s to the time of its defeat. In the early 1930s Japan’s nuclear research was sporadically conducted within the theoretical scope.

After Japan provoked a war against China on July 7, 1937 the

nuclear-related research in the Japanese academic circle gradually switched to a military purpose. Having learned the result of the nuclear research in Germany and the US around 1938–1939, Japanese scientists came to know military potentials of nuclear fission. In 1940 they accelerated the preparation to launch a research into A-bomb production. In the spring of 1941 they started weighing the possibility of A-bomb production in real earnest. In the early 1943 the then Japanese Prime Minister and concurrently War Minister Hideki Tojo gave a secret order to Colonel Toranosuke Kawashima, General Affairs Director at the Army & Air Headquarters. The order stated: “The A-bomb production project has made a considerable progress in the US and Germany. We will lose the war if we fall behind them. Accelerate the project.”

Thus, a hundred competent scientists joined the A-bomb development team and in March that year a number of groups were organized and got down to the research. In March 1944 they started an enrichment test as a thermal diffusion tower had been built, and in July they embarked on experiment since a large cyclotron had been completed.

Japan conducted large-scale investigations to discover uranium resources in Korea, Manchuria and Southeast Asia while pushing ahead with the experiment of uranium separation. According to the survey it was confirmed that they could obtain 26 million tons of uranium in the Korean peninsula, and a camouflaged company named Pyongyong Riyeon Mining Stock Company was established for its quarry.

The Japanese military requested their ally of Nazi Germany for uranium. At first Germany was skeptical about their request, but finally it agreed to exchange uranium for Japan’s supply of gold, rubber, opium and quinine (raw material of prophylactic medicine against malaria) due to their strenuous persuasion. Ocean-going submarines in each of the countries played the main role in uranium transaction. They conducted the trade in such a way that submarines entered a port the other side designated or they met in the neutral waters to exchange their cargo. Harvard York, honorary physics professor of California University, pointed out that at that time Germany had collapsed, that a large amount of uranium had been stored there, and that some people had had the idea of taking uranium to Japan. ▶

► At the same time the Japanese Navy promoted the “Research F” (F was borrowed from the English word *fission*) with Professor Bunsaku Arakatsu of Kyoto Imperial University as the central figure. In May 1941 the Navy proposed Arakatsu to develop an A-bomb through nuclear reaction and established the nuclear physics application and research committee in 1942 to examine the possibility of A-bomb in cooperation with Kyoto Imperial University.

According to Matao Mitsui’s record titled *Story of A-bomb Failure* the old Japanese Navy entrusted the assistance to the setup of a particle accelerator and nuclear physics research to Arakatsu in 1943 and paid him 600 000 yen for the research. The Arakatsu research team composed of excellent scientists including Hideki Yukawa who later won the Nobel Prize for physics for the first time in Japan with discovery of the meson theory. In 1945, soon after the defeat of Japan, Arakatsu submitted his report on military research to the US, in which he declared that the construction of cyclotron was part of the A-bomb research. Except these facts there is no more additional information available about “Research F.” It is because “Research F” developed into a new secret project named “Sun Research” after 1944. Soon after the Tojo Cabinet stepped down, that is, on July 30, 1944 Yoichi Yamamoto, a member of the then 8th

Army Technical Institute, happened to get a confidential document. (Book *Real Fact of the Japanese A-bomb*, 1976) Titled *Enforcement Points and Composition of War Research 3712*, it was about a formal decision to push forward the “Sun Research,” a new secret project for nuclear development, on a nationwide scale with help of the researchers of not only Kyoto Imperial University but also Osaka, Nagoya and Tohoku imperial colleges under the joint supervision of the army and the navy. Especially, the “Sun Research” included the research into heavy water used as moderator in the atomic reactor. This shows that Japan was expecting to do research on not only enriched uranium but also plutonium.

Recently confidential data about the “Sun Research” have been disclosed to the public. A report from the Japanese *Kyoto Shimbun* dated June 25, 2015 goes as follows: Three notebooks and related data were discovered in the Radioisotope Research Centre of Kyoto University on the 24th. They are about the fact that Arakatsu laboratory of Kyoto Imperial University, which was entrusted by the then Japanese Navy with the task to do A-bomb research, was engaged in the development of centrifugal machine for uranium enrichment during the Pacific War.

The notebooks were found in a branch library of the centre, which was the lab of Sakae Shi-

mizu, honorary professor of Kyoto University, who had been a lecturer in the Arakatsu laboratory during the war. On the front cover was written the title *Ultracentrifugation* in English and the signature of Shimizu. The date was registered by the Japanese imperial calendar, and it probably was written around October and November 1944. A notebook contains a table on the number of revolution of centrifugal equipment, and pictures of related foreign papers. “List of Materials for Manufacture of Ultracentrifugal Device” gives a catalogue of necessary materials, indicating the diameters and lengths of materials including lightweight alloys.

According to reports from the Japanese *Sankei Shimbun* and *Kyoto Shimbun* dated July 26, 2015, research data of Bunsaku Arakatsu who was the head of the Japanese A-bomb development project in the closing days of the Pacific War, and designs of centrifugal separator for uranium enrichment were also found.

There is no more information obtainable related to the “Sun Research” in Japan. The then Kyoto Imperial University (now Kyoto University) directly pursued such an important secret nuclear development project. Oddly, however, it has no traces except some accessories of the cyclotron Arakatsu had failed to complete.

Then, where did the Arakatsu research team push ahead with the A-bomb programme? □

Lion Pagoda at Kumjang Temple

THE LION PAGODA IS A stone tower of the Koryo dynasty (918–1392), located at the site of Kumjang Temple in Naekumgang-ri, Kumgang County, Kangwon Province.

A three-storeyed granite tower standing 3.87m high, it is supported by four squatting-lion-

shaped sculptures each on one of the four corners of the podium slab. Hence the name.

The tower is composed of the base, the body and the head.

The base is of unusual shape. Under the podium is laid a stone slab for the ground tier—each of its sides is 2.02m long. The square

slab is 49cm thick and hasn't any decoration on it. On the podium stand four lion-shaped stones, each on one of the four corners, supporting the tower body. The stones are 1.1m high each. A Buddhist statue, 0.88 m in height, is at the centre of the podium. A pad-stone laid on the lion sculptures is of a square and plane form so as to ensure levelness by providing a maximum width and straightness of its eaves.

The tower body is three storeys high and is tapering upwards. Under each of the body stones are placed footstones—three-fold on the first storey and two-fold on the second and third floors respectively. And there is a four-staged eaves stone under each of the roof stones. The bottom line of the eaves stone is straight while the surface line is slightly curved upward at the end of the two sides, thus looking buoyant. The roof surface is comparatively steep and slightly curved. Each of the four corners of the roof stone has a metal ring which used to hold wind-bells.

The top part of the tower is gone.

The tower is an excellent monument—it is well balanced with the lion sculptures on the base for its pillar. Though the lion sculptures and the Buddhist statue look unfinished for its clumsy trimming, the lion sculptures appear strong and stable in supporting the tower body.

The pagoda is a pride of the Korean people as it is a good indication of the architectural style and sculpture of Koryo.



Paek Yong Nam

