



KOREA TODAY

2

Juche 106

(2017)

National Grand Cross Order of Merit



Chairman Kim Jong Il received the National Grand Cross Order of Merit from President Lansana Conte of the Republic of Guinea in April 2005.





C O N T E N T S

3 New Year Address

9 Powerful Energy for Social Development

Chairman Kim Jong Il proposed the line of giving priority to science and technology as a strategic line in the building of a socialist power and gave wise guidance to the effort for its implementation. His policy is steadfastly maintained by Supreme Leader Kim Jong Un.

12 Prioritizing Science and Technology

13 Great Man of the Century

16 The Korean People's Army and February 8



Monthly journal *Korea Today* is printed in English, Russian and Chinese, and posted on the Internet site *Naenara* in English, Russian, Chinese, French, Spanish and Arabic.



Front Cover: Statue of Chairman Kim Jong Il erected in Samjiyon County in September 2016

Photo by courtesy of the KCNA



Back Cover: A firework display in celebration of Chairman Kim Jong Il's birthday in February

Photo by Ju Kum Song

13502 □ -68240

Edited by Kim Chol Jun
Address: Sochon-dong,
Sosong District,
Pyongyang, DPRK
E-mail: flph@star-co.net.kp

© The Foreign Language Magazines 2017

- 18 With Concerted Efforts
- 19 Increasing Varieties of Products
- 20 Ryongaksan Spring Water
- 22 Soil Analyser Developers
- 23 New Waterproofing Agent Developed
- 24 Leaders of Sci-tech March
- 25 Teaching Contents and Methods Improve
- 26 Manager's Story
- 27 Radiation Injury Is a Past Story
- 28 High Passion for Sports Activities
- 30 Competent International Referee
- 31 Buds of Talent Nurtured
- 32 Man-and-wife Teachers
- 33 Natural History Museum (1)
- 36 Popular Brassware
- 37 Wonder Efficacy of *Shizandra Chinensis*
- 38 A New Appearance of Rungna
People's Pleasure Ground
- 39 Enjoying the Full Moon of the First Lunar Month
- 40 Mt. Myohyang (3)
- 42 National Intangible Cultural Heritage (3)
Cultivation and Use of Insam
- 43 Historical Relics and Remains Newly Unearthed
- 44 Fundamental Idea for Unity and Reunification
- 45 The US Should Think in Reasonable Way
- 46 Imperialist Japan's Scheme for A-bomb Development
and Massacre of Koreans (3)
- 48 Renowned Physician of Koryo



28



33

New Year Address

Kim Jong Un

January 1, Juche 106 (2017)

DEAR Comrades,
Having seen out 2016, in which we glorified each and every day with gigantic struggle, creating a new history of great prosperity unprecedented in the history of the Juche revolution, we are seeing in the new year 2017.

Availing myself of this meaningful opportunity, when we look back with dignity upon the great year filled with proud miracles wrought by our great people, I, with the noblest mind, offer warm greetings to all the Korean people, who overcame with optimism trials of all hues unprecedented in history, sharing weal and woe with the Party and throwing in their lot with it by forming an integral whole with it in ideas, intention and will, and extend glory and blessing of the hope-filled new year to them.

My warm greetings go also to the compatriots in the south and abroad and to the progressive peoples of the world and other foreign friends who aspire after independence and justice.

The year 2016 was a year of revolutionary event, a year of great change, worthy of note in the history of our Party and country.

Last year, amid the soaring revolutionary enthusiasm of all the Party members, service personnel and other people and great interest of the world, the Seventh Congress of the Workers' Party of Korea was held in a meaningful and splendid way as a grand political festival.

The congress proudly reviewed our Party's glorious history of advancing the revolutionary cause of Juche along the victorious road under the wise leadership of the great Comrades Kim Il Sung and Kim Jong Il, and unfolded an ambitious blueprint for accomplishing the socialist cause under the banner of Kimilsungism-Kimjongilism. Through this historic congress, the iron will of our service personnel and people to continuously march along the road of Juche following the Party was fully demonstrated, and lasting groundwork for the Korean revolution was laid. It will be etched in the history of our country as a meeting of victors that demonstrated the invincible might of the great Kimilsungist-

Kimjongilist party, as a glorious meeting that set up a new milestone in carrying out the revolutionary cause of Juche.

Last year an epochal turn was brought about in consolidating the defence capability of Juche Korea, and our country achieved the status of a nuclear power, a military giant, in the East which no enemy, however formidable, would dare to provoke.

We conducted the first H-bomb test, test-firing of various means of strike and nuclear warhead test successfully to cope with the imperialists' nuclear war threats, which were growing more wicked day by day, briskly developed state-of-the-art military hardware, and entered the final stage of preparation for the test launch of intercontinental ballistic missile; we achieved other marvellous successes one after another for the consolidation of the defence capability. This provided a powerful military guarantee for defending the destiny of the country and nation and victoriously advancing the cause of building a powerful socialist country. Our valiant People's Army reliably defended the security of the country and the gains of the revolution by resolutely frustrating the enemy's reckless moves for aggression and war, and gave perfect touches to its political and ideological aspects and military and technical preparations, as befits an invincible army. The brilliant successes achieved in the sector of national defence instilled a great national dignity and courage in our people, drove the imperialists and other reactionary forces into an ignominious defeat, and remarkably raised the strategic position of our country.

Last year we achieved proud successes in the 70-day campaign and 200-day campaign organized for glorifying the Seventh Congress of the Party.

These campaigns were a do-or-die struggle in which all the people smashed to smithereens the enemy's vicious schemes to isolate and suffocate our country and brought about a turning point on all fronts where a powerful socialist country is being built, a massive struggle of creation that gave birth to a new

▶ Mallima era.

Thanks to the heroic struggle of the Kim Il Sung's and Kim Jong Il's working class and all other people, the ambitious goals the Party set for the 70-day campaign and 200-day campaign were attained with success and a fresh breakthrough was made in the development of the national economy.

Our resourceful, talented scientists and technicians, following the successful launch of the earth observation satellite Kwangmyong-song 4, succeeded in the static firing test of new-type high-thrust motor of the launch vehicle for a geostationary satellite. By doing so, they have opened up a broad avenue to the exploration of outer space. Also, they established fully-automated, model production systems of our own style, bred high-yielding strains with a view to ramping up agricultural production and achieved other laudable scientific and technological breakthroughs one after another. All this will be of great significance in developing the country's economy and improving the people's livelihood. The electric-power, coal-mining, metallurgical, chemical and building-materials industries, rail transport and other major sectors of the national economy attained their respective production and transport goals, thereby demonstrating the potential of our self-supporting economy and giving a powerful impetus to the building of a socialist economic giant. Numerous industrial establishments and cooperative farms registered the proud success of surpassing the peak-year level. The People's Army stood in the vanguard in adding lustre to the history of "gold seas" and in creating a legendary speed at important construction sites. The sectors of education, public health and sports, too, made admirable achievements. When some areas in North Hamgyong Province were devastated by a sudden natural calamity, the whole country turned out in the restoration effort in hearty response to the Party's appeal and achieved a miraculous success in a short span of time.

During the 70-day campaign and 200-day campaign we created a new spirit of the times for building a powerful socialist country, and our people's trust in the Party and confidence in socialism grew firmer. Last year, in which the whole country kept on seething with vigour day and night, all the Party members and other working people, youth and service personnel gave full scope to the indomitable attacking spirit of braving ordeals and difficulties, the death-defying mettle of answering the Party's call with devotion and practice in any adversity, and the collectivist might of helping

one another and leading one another forward to advance by leaps and bounds.

The brilliant successes we achieved in all the sectors of the revolution and construction last year are by no means attributable to any good conditions, nor are they a fortuitous result of any divine power. The mysterious power that brought about all these miraculous successes is just the single-hearted unity of all the service personnel and people, their great capacity for self-development. Even though the enemy grew more blatant in their obstructive schemes and severe difficulties cropped up one after another, all the service personnel and people drew themselves closer together around the Party and waged a vigorous struggle in the revolutionary spirit of self-reliance and fortitude. This was how they achieved the world-startling, miraculous successes under such trying circumstances. The single-hearted unity is the lifeblood of Juche Korea and the dynamic force for a leap forward, and we must invariably follow the road of self-reliance and self-development—this is the invaluable truth of the Juche revolution confirmed by our army's and people's gigantic struggle in 2016.

I extend my heartfelt thanks once again to all the service personnel and people who, with unshakeable confidence in the final victory of the revolution, adorned last year, eventful and arduous, with laudable exploits by devoting their patriotic loyalty, sweat and blood to building a powerful socialist country.

Comrades,

We should turn out again in the new year's march towards a greater victory.

To build on the successes already gained and turn a heyday in the revolution into a great golden age is an ideological and spiritual characteristic and work style of all our service personnel and people who were trained under the care of the great leaders. In this significant year, by further encouraging the revolutionary spirit that was heightened to an incomparable degree in the course of the previous miraculous year, we should make remarkable progress in the implementation of the decisions adopted at the Seventh Congress of the Party and thus translate the people's ideals and dreams into brilliant reality on this land.

We should concentrate our efforts on implementing the five-year strategy for national economic development.

This year is of key importance in carrying out this strategy. In order to open up fine prospects for the implementation of the strategy and develop the country's overall economy onto a higher plane, while building on the

▶ successes gained last year, we should attain the goals for this year's struggle without fail.

"Let us accelerate the victorious advance of socialism with the great spirit of self-reliance and self-development as the dynamic force!"—this is the militant slogan we should uphold in this new year's march. We should wage a vigorous all-people, general offensive to hit the targets of the five-year strategy on the strength of self-reliance and self-development.

The strength of self-reliance and self-development is that of science and technology, and the shortcut to implementing the five-year strategy is to give importance and precedence to science and technology.

The sector of science and technology should concentrate efforts on solving scientific and technological problems arising in modernizing factories and enterprises and putting their production on a regular footing with the main emphasis on ensuring the domestic production of raw materials, fuel and equipment. Production units and scientific research institutes should intensify cooperation between themselves, and enterprises should build up their own technological development forces and conduct a proactive mass-based technological innovation drive, propelling economic development with valuable sci-tech achievements conducive to expanded production and the improvement of business operation and management.

The electric-power, metallurgical and chemical industries should take the lead in the efforts to hit the targets of the economic strategy.

The electric-power industry should carry out its production plan without fail by ensuring good maintenance of generating equipment and structures and stepping up its technical upgrading. It should run the nationwide integrated power control system effectively and organize alternated production scrupulously to ensure balance between power production and consumption; it should also develop the various sources of power to create a new generating capacity on a large scale.

The metallurgical industry should introduce advanced technologies to lower the iron production cost and ensure normal operation of Juche-based production lines to turn out iron and steel in larger amounts. The state should take stringent measures to supply raw materials, fuel and power to the Kim Chaek and Hwanghae iron and steel complexes and other metallurgical factories.

The chemical industry is a basis for all other industries and plays an important role

in consolidating the independence of the economy and improving the people's living standards. This sector should revitalize production at the February 8 Vinalon Complex, expand the capacity of other major chemical factories and transform their technical processes in our own way, thus increasing the output of various chemical goods. It should direct efforts to establishing a C1 chemical industry to carry out the tasks at every stage promptly and satisfactorily.

The coal-mining industry and the rail transport sector should meet the demands for coal and its transport by power stations and metallurgical and chemical factories on a top priority basis.

The machine-building industry should be rapidly developed. Machine factories should step up their modernization, perfect the processes for the serial production of new-type tractors, vehicles and multi-purpose farm machines, and produce and supply different kinds of high-performance and quality machinery and equipment.

This year light industry, agriculture and fishing industry should be radically developed to make greater progress in improving the people's living standards.

Light industry should work out proper management strategies, regarding use of domestically available raw and other materials as their core, so as to revitalize production and bring about a turn in diversifying the range and types of consumer goods and improving their quality. It should normalize production in the mines and enterprises in the Tanchon area, so that they can prove effective in improving the people's living standards.

The agricultural front, the major thrust in building an economic giant, should raise a strong wind of scientific farming and push forward the movement for increasing crop yield. It should widely introduce seeds of superior strains and scientific farming methods, whose advantages have been proved in practice, expand the area of land under two-crop farming, and be proactive in inventing and introducing high-performance farm machines. By doing so, it can attain the production goal of grains. It should adopt measures to run the livestock farming base in the Sepho area on a normal basis and increase the production of fruits, mushrooms and vegetables, so that the people can enjoy benefits from them.

The fishing sector should conduct a dynamic drive for catching fishes and push perseveringly ahead with aquatic farming. It should build modern fishing vessels in a greater number and lay out a comprehensive

▶

▶ fishing equipment production base in the east coast area, so as to consolidate the material and technical foundations of the fishing industry.

The construction sector should complete the construction of Ryomyong Street at the highest level and concentrate its forces on the major construction projects including the building of the Tanchon Power Station, modernization of the Kim Jong Thae Electric Locomotive Complex and the development of the Wonsan area. It should also build more educational and cultural facilities and houses in an excellent way.

Upholding the slogan of self-reliance and self-sufficiency, every field and every unit of the national economy should launch a dynamic struggle to increase production and practise economy to the maximum, and thus carry out the plan for this year on all indices.

The whole country should turn out in land administration. We should further transform the appearance of the land of our country by building modern tree nurseries in provinces, perseveringly pressing on with the forest restoration campaign and conducting river management, road repair and environmental conservation on a planned basis.

In order to bring about a turnabout in implementing the five-year strategy for national economic development, it is imperative to carry on economic guidance and business management with clear objectives and in an innovative way. The Cabinet and other economic guidance organs should work out tactics to ensure the sustainable economic development by putting the overall national economy definitely on an upward track, and implement them with an unflinching perseverance.

All the fronts in the sector of culture including education, public health, sports, literature and the arts should effect a new, revolutionary upsurge to accelerate the building of a civilized power. The whole country and the whole society should launch a dynamic drive this year, a year of science and education, to improve the facilities and environment for science and education.

The political and military position of socialism should be further cemented so that it can be an impregnable fortress.

Single-hearted unity is the precious revolutionary legacy the great Comrades Kim Il Sung and Kim Jong Il bequeathed to us, and herein lies the invincible might of our style of socialism. All the service personnel and people should establish the ties of kinship with the Party, their hearts pulsating to the

same beat as it, and unite closely behind it in ideology, purpose and moral obligation, so as to struggle staunchly to achieve the prosperity of the country. We should thoroughly apply the people-first doctrine, the crystallization of the Juche-oriented view on the people, philosophy of the people, in Party work and all the spheres of state and social life, and wage an intensive struggle to root out abuses of power, bureaucratism and corruption that spoil the flower garden of single-hearted unity. We should resolutely thwart the enemy's sinister and pernicious schemes to check the warm and pure-hearted aspiration of our people who follow the Party single-heartedly and to alienate the Party from them.

In this year of the 85th anniversary of the founding of the Korean People's Army, we should raise the fierce flames of increasing the military capability.

The People's Army should conduct the Party's political work in a proactive manner, so as to ensure that it is pervaded with the ideology and intentions of the Party alone. It should designate this year as another year of training, another year of perfecting its combat preparedness, and ensure that all its units of different arms, services and corps raise a hot wind of perfecting their combat preparedness in order to train all its officers and men as a-match-for-a-hundred combatants, tigers of Mt Paektu, who are capable of annihilating any aggressor force at a stroke. Officers and men of the Korean People's Internal Security Forces and members of the Worker-Peasant Red Guards and Young Red Guards should prepare themselves politically and militarily and maintain full combat readiness to firmly defend the socialist system and the people's lives and property.

Officials, scientists and workers in the defence industry, burning their hearts with the "Yongil bomb spirit" of the days of the anti-Japanese struggle and the revolutionary spirit of the workers of Kunja-ri of the days of the Fatherland Liberation War, should develop and produce larger quantities of powerful military hardware of our own style. By doing so, they can build up the arsenal of the Songun revolution.

Success or failure of this year's struggle aimed at carrying out the decisions of the Seventh Congress of the Party depends on the role of Party and working people's organizations.

Party organizations should concentrate their work on carrying out the Party's policies and the major revolutionary tasks advanced for their respective sectors and units. They ▶

▶ should correctly identify the problems to which the Party attaches importance and which are the main links in the whole chain of bringing about an upsurge in production, and should resolve them by enlisting all their forces. They should move the theatre of political work to the seething production sites and launch a revolutionary ideological offensive there. In this way they can powerfully arouse the masses to the general mobilization struggle for carrying out the Party's ideas and policies. All the primary Party organizations, by applying the main spirit of the First Conference of Chairpersons of the Primary Committees of the Workers' Party of Korea, should ensure that the spirit of continuous innovations and continuous advance is displayed to the full in this year's all-people, general offensive.

All the youth league, trade union, agricultural workers' union and women's union organizations should enlist their members and encourage them to be astir in the advance for great upsurge, and ensure that they become innovators, creators of the Mallima speed.

The current stirring era demands that our officials, standard-bearers in carrying out the Party's policies, improve their working style and attitude in a revolutionary way.

Our people's enthusiasm for labour is very high now; when this enthusiasm is supported by bold and scientific operations, effective command and personal examples of our officials, there is no fortress we cannot conquer and no difficulty we cannot overcome. All the officials, well aware of the noble mission they have assumed before the Party and revolution, should become locomotives that lead the masses in the vanguard of the ranks. They should plan their work in a big way with innovative insight, always think what to do and work in a keyed-up and militant way. They should resolutely break with defeatism, self-preservation, formalism and expediency, and devote their heart and soul to the struggle for carrying out the Party's plans and intentions.

Last year, in reflection of the national desire for reunification and the requirements of the times, we put forward the Juche-oriented line and policy of reunification at the Seventh Congress of the Workers' Party of Korea and made strenuous efforts to this end. However, the south Korean authorities turned a deaf ear to our patriotic appeal and ignored our sincere proposal. Instead, they clung to their sanctions-and-pressure schemes against the DPRK and persisted in clamouring for a war against it, thus driving inter-Korean relations

towards the worst catastrophe.

Last year, south Korea witnessed a massive anti-"government" struggle spreading far and wide to shake the reactionary ruling machinery to its foundations. This resistance involving all south Korean people, which left an indelible mark in the history of their struggle, was an outburst of pent-up grudge and indignation against the conservative regime that had been resorting to fascist dictatorship, anti-popular policy, sycophantic and traitorous acts and confrontation with their compatriots.

This year we will mark the 45th anniversary of the historic July 4 Joint Statement and the 10th anniversary of the October 4 Declaration. This year we should open up a broad avenue to independent reunification through a concerted effort of the whole nation.

Positive measures should be taken to improve inter-Korean relations, avoid acute military confrontation and remove the danger of war between north and south.

The improvement of inter-Korean relations is the starting-point for peace and reunification, and it is a pressing demand of the whole nation. Any politician, if he or she remains a passive onlooker to the current deadlock between the two sides, can neither claim to be fully discharging his or her responsibility and role for the nation nor enjoy public support. Every manner of abuses and slanders aimed at offending the other party and inciting confrontation cannot be justified on any account, and an immediate stop should be put to the malicious smear campaign and other acts of hostility towards the DPRK, all designed for the overthrow of its system and any other "change."

We are consistent in our stand to safeguard the security of the compatriots and peace of the country without fighting with the fellow countrymen. The south Korean authorities should not aggravate the situation by finding fault with our exercise of the right to self-defence thoughtlessly, but respond positively to our sincere efforts to prevent military conflict between north and south and ease the tension.

They should also discontinue arms buildup and war games.

The whole nation should pool their will and efforts to usher in a heyday of the nationwide reunification movement.

All the Korean people in the north, in the south and abroad should achieve solidarity, make concerted efforts and unite on the principle of subordinating everything to national reunification, the common cause of the nation, ▶

▶ and revitalize the reunification movement on a nationwide scale. They should promote active contact and exchange with each other irrespective of differences in their ideologies and systems, regions and ideals, and classes and social strata, and hold a pan-national, grand meeting for reunification involving all the political parties and organizations including the authorities in the north and south, as well as the compatriots of all strata at home and abroad. We will readily join hands with anyone who prioritizes the fundamental interests of the nation and is desirous of improving inter-Korean relations.

It is necessary to frustrate the challenges of the anti-reunification forces at home and abroad who go against the aspiration of the nation for reunification.

We must put an end to the moves for aggression and intervention by the foreign forces including the United States that is occupying south Korea and tries to realize the strategy for achieving hegemony in the Asia-Pacific region, and wage a dynamic pan-national struggle to thwart the moves of the traitorous and sycophantic anti-reunification forces like Park Geun Hye who, failing to see clearly who is the real arch-enemy of the nation, is trying to find a way out in confrontation with the fellow countrymen.

Well aware of the will of the Korean nation to reunify their country, the United States must no longer cling to the scheme of whipping up national estrangement by inciting the anti-reunification forces in south Korea to confrontation with the fellow countrymen and war. It must make a courageous decision to roll back its anachronistic policy hostile towards the DPRK. The international community that values independence and justice should oppose the moves of the United States and its vassal forces aimed at wrecking peace on the Korean peninsula and checking its reunification, and the neighbouring countries should act in favour of our nation's aspiration and efforts for reunification.

All the fellow countrymen in the north, in the south and abroad should do something to make this year a meaningful year of a new phase in independent reunification by stepping up a nationwide grand march towards reunification through the concerted effort of the nation.

Last year the imperialist reactionary forces' moves for political and military pressure and sanctions against our country reached an extreme. But they failed to break the faith of our service personnel and people in victory, and could not check the vigorous

revolutionary advance of Juche Korea.

We will continue to build up our self-defence capability, the pivot of which is the nuclear forces, and the capability for preemptive strike as long as the United States and its vassal forces keep on nuclear threat and blackmail and as long as they do not stop their war games they stage at our doorstep disguising them as annual events. We will defend peace and security of our state at all costs and by our own efforts, and make a positive contribution to safeguarding global peace and stability.

Our Party and the government of our Republic will remain committed to the ideals of our foreign policy of independence, peace and friendship, expand and develop the relations of good-neighbourliness, friendship and cooperation with those countries championing independence, and make concerted efforts with them to ensure genuine international justice.

Comrades,

As I am standing here to proclaim the beginning of another year, I feel a surge of anxiety about what I should do to hold our people in greater reverence, the best people in the world who have warmly supported me with a single mind out of their firm trust in me.

My desires were burning all the time, but I spent the past year feeling anxious and remorseful for the lack of my ability. I am hardening my resolve to seek more tasks for the sake of the people this year and make redoubled, devoted efforts to this end.

Previously, all the people used to sing the song *We Are the Happiest in the World*, feeling optimistic about the future with confidence in the great Comrades Kim Il Sung and Kim Jong Il. I will work with devotion to ensure that the past era does not remain as a moment in history but is re-presented in the present era. On this first morning of the new year I swear to become a true servant loyal to our people who faithfully supports them with a pure conscience.

And I will push the effort to set up across the Party a revolutionary climate of making selfless, devoted efforts for the good of the people.

As long as the great Kimilsungism-Kimjongilism is illuminating the road ahead of us and we have the single-hearted unity of all the service personnel and people around the Party, we are sure to emerge victorious.

Let us all march forward dynamically towards a bright future, holding up the splendid blueprint unfolded by the Seventh Congress of the Workers' Party of Korea to develop ours into a powerful socialist country. □

Powerful Energy for Social Development



Chairman Kim Jong Il sees new models of CNC machine tools in December 2010.

THE DEMOCRATIC PEOPLE'S REPUBLIC of Korea's cause of building a socialist power is suffering all sorts of difficulties due to atrocious anti-DPRK schemes of hostile forces. Despite the difficulties the Korean people are advancing vigorously on the strength of their own resources, their scientific and technological potentialities.

Motive force in building socialist power

It was Chairman Kim Jong Il's intention and plan to provide the people with a richer and more civilized life and achieve prosperity of the socialist nation by developing science and technology rapidly.

One day in May 1995 the Chairman said to some officials that if the country is to make rapid development it is necessary to attach importance to science and give precedence to scientific development, and that it is a state policy to prioritize scientific

progress. The line of prioritizing science and technology he advanced is to give top priority to development of science and technology and concentrate all efforts on it so as to solve problems arising in all fields of economic construction, defence upbuilding and improvement of living standards relying on science and technology. He consistently put forward the line as the principal one and put great effort into creating a climate in which the importance of science and technology was recognized throughout society. In 1999 he advanced the line of prioritizing science and technology as a strategic line to be followed in building a socialist power, and set the policy of prioritizing science and technology as one of the three pillars in building a socialist power along with the ones of attaching importance to ideology and the arms. On January 11 that year he gave historic on-the-spot guidance to the State Academy of Sciences braving the rigours of the cold midwinter, and manifested his high aim to raise the



The Mirae Scientists Street.

- ▶ standards of science and technology of the country up to a higher level. His on-the-spot guidance to scientific research institutes continued without interruption.

He paid deep concern to the work of helping officials carry out the line of prioritizing science and technology of the Workers' Party of Korea with a correct view of science and technology. He saw to it that scientists were treated preferentially and that they contributed to prosperity of the country with great achievements. He took necessary measures to build up the material and technical foundations of research institutes in accord with the trend of development of modern science and technology, increase state investment into the sector of scientific research and help scientists engross themselves in research without any worry.

Thanks to his close guidance, a climate of attaching importance to science and technology settled throughout society, boosting scientific and technological successes. He devoted all his effort to development of all sectors of modern science and technology like space engineering, electronic engineering, bioengineering and construction engineering.

In August 1998 the DPRK successfully launched its first artificial earth satellite *Kwangmyongsong 1*. As a complex of modern applied science and technology including electronic engineering, mechanical engineering, cybernetics, space engineering, electronic components engineering and system engineering, the satellite was totally a product of Korean

scientists and technicians' efforts and intelligence. Most of the scientists and technicians who took part in the satellite project were in their thirties and forties. With its first satellite launch the country demonstrated its power based on scientific and technological potentialities.

“Steed” and “Locomotive”

One day Chairman Kim Jong Un of the Workers' Party of Korea said that scientific research is something like marching through virgin snow and that they should prioritize science and technology and put effort into their development however difficult the situation may be in the country.

He is giving wise guidance to development of science and technology with a firm trust in the scientists and technicians upholding the banner of self-reliance and self-development. Under his wise leadership science and technology are making rapid progress. The country launched artificial earth satellites into space with its own efforts and technology, and is producing planes and subway cars by itself. Recently it developed acrylic paint and successfully introduced the technology into production by manufacturing and operating the equipment, which is usually thought a difficult task. High-tech equipment is home-made and installed at new and refurbished factories.

Science and technology are “steed” and “locomotive”— this is a favourite remark of ▶

► Kim Jong Un who attaches importance to science and technology. Indeed, science and technology are making rapid progress like a steed and locomotive.

Kim Jong Un treats scientists and technicians as the most valuable and shows them great care, saying that the country should be developed into a sci-tech power and a talent power if it is to become powerful and bring all dreams of the people into reality.

Here goes a story. In January 2014 Kim Jong Un inspected the State Academy of Sciences and spent a day and half for the sake of scientists. Very thankful for his concern, a senior official of the academy said he would write a story about it with the title “A Day and Half for Scientists.” Hearing it, Kim Jong Un said with a smile that his heart goes out to scientists not a day and half but all the year round. Saying that there is a saying that a person who does a laudable thing deserves a golden

cushion, he proposed to build a golden cushion like apartments for scientists. This is how apartments exclusively for teachers of Kim Il Sung University and Kim Chaek University of Technology, Unha Scientists Street, Wisong Scientists Residential District and Mirae Scientists Street were built.

Last year the Sci-Tech Complex, a magnificent house for all-people learning, went up in the Ssuk Islet in the Taedong River in Pyongyang. Kim Jong Un cut the tape in the inauguration ceremony. Looking round the house, he made a meaningful remark that the gate to the new year (2016)—when the Seventh Congress of the Workers’ Party of Korea was slated—was opened with a sincere approach to science. Now the complex offers all Koreans ample opportunities to attain their goal of ultramodern science by accumulating knowledge of modern science. Referring to the present reality in which radical progress is being made in science and technology, Koreans say unanimously that it is all thanks to Kim Jong Un who is working energetically to achieve victory in the building of a socialist power with the force of science and technology, considering science and technology a matter of crucial importance in the effort to win dignity and prosperity of the nation.

Ri Jong Nam

The Sci-Tech Complex.



Prioritizing Science and Technology

Kindly Showing the Way

IN MARCH 1983 PRESIDENT KIM IL SUNG visited the Science Exhibition Hall of the State Academy of Sciences. Saying he came to see the scientists, he inquired after their health.

In the hall were lots of exhibits to show the successes achieved in the survey of the country's natural resources and data on research prospects. There were also research achievements in the mining, metallurgical, chemical, machine-building and light industries. Coming to the rotary kiln model, the President carefully listened to the explanation about new methods of iron production and closely inspected the exhibits showing various results of researches. After looking round all the hall, he highly praised the successes achieved by the scientists and gave precious instructions to follow as the guideline in the scientific research work in the future.

He then made a speech on bringing about a fresh turn in scientific research work. He stressed that the scientists and technicians should work harder to make a great contribution to raising further the nation's standards of science and technology and to rapidly developing the national economy. He went on to tell them in detail what and how to do to direct their energies preferentially to scientific research work for developing the national economy in the Korean fashion and to intensify the studies in their special research fields and foreign languages.

To Help Them Fly Higher

In December 2009 Chairman Kim Jong Il visited the Chongjin University of Mining and Metallurgy.

Guided by the president of the university, he entered the thermal and hydropower machine laboratory. Coming to a hydraulic control test device, he asked to put the machine into motion. Listening to the explanation about it, he watched its operation for a while. There, he learned about the nearby hydraulic apparatuses, too, and moved on to the next installation. This was a general tester for flowing liquid controlled by a computer. Kim Jong Il highly praised the university for its invention.

He expressed satisfaction over again at the report that the teachers and researchers of the university were conceiving and introducing new designing programmes into production on the ba-

sis of analysing sci-tech problems arising at the Kim Chaek Iron and Steel Complex by computer simulation. After getting fully acquainted with the state of the makeup of various lab facilities and the information networks of the university and the situation of IT-oriented experiments and practices, he gave precious instructions to make a large investment in education and further strengthen educational work.

The Point He Stressed

In November 2013 Chairman Kim Jong Un of the Workers' Party of Korea visited the Pyongyang University of Architecture.

Seated with the senior administrators of the university, he said that a building should be good not only to use but also to look at, that just like a handsome man can attract attention, a stylish building can catch eyes of people, and that they should adhere to the principle of prioritizing convenience and aesthetic beauty in building so as to make Korea's architecture lead the world. The Pyongyang University of Architecture should rear many capable architects who will contribute to the building of a civilized socialist nation, he went on. To fulfil this task, the teachers should equip themselves firmly with the Party's idea of Juche-oriented architecture, master the professional knowledge and, on this basis, teach the students well, he said.

Looking at the photographs of major structures created by the graduates and teachers of the university, he said most of the monumental buildings in the country had been designed by the graduates and teachers of the university and spoke highly of the university's graduates for their leading role in creating great monumental structures in the past years. And he stressed that an educational system should be established for the university to provide pedagogical and academic assistance to the local educational institutions of architecture.

According to his instructions a database has been set up in the university with materials of world architecture and domestic designing materials, with the result that a modern e-reading room has been opened to provide necessary data to the university teachers and students, architectural designing institutes, and local educational institutions of architecture. So, now the university has turned into a centre serving scientific information and data and distance education in the field of architecture.

Thak Song Il

Great Man of the Century

Unusual Ideo-theoretical Intelligence

CHAIRMAN KIM JONG IL further developed and enriched President Kim Il Sung's revolutionary ideology with his energetic ideological and theoretical activities. One of the Chairman's ideological and theoretical exploits is that he made an integral comprehensive system of the Juche idea fathered by the President. Earlier, the Chairman had long waged ideological and theoretical activities to develop the Juche idea into an integrated system, and in February 1974 formulated the President's revolutionary idea as Kimilsungism, which marked a landmark in his full-blooded effort to the end.

In his historic works including *On Some Questions in Understanding the Juche Philosophy* published on April 2, 1974 and *On Having a Correct Understanding of the Originality of Kimilsungism* published on October 2, 1976 he gave profound

answers to the theoretical problems of the Juche idea and laid the theoretical basis of the idea. In March 1982 the leader made public his treatise *On the Juche Idea* which systematizes the idea into a comprehensive integration. In the treatise he clarified extensively and in depth the socio-historical background of the origination of the Juche idea and the features of the time it represents, the philosophical and socio-historical principles of the idea and its guiding principles, and the historic significance of the idea.

The treatise based on a profound thinking and scientific logic was carried by foreign magazines and newspapers of over 90 countries in full text or excerpts in less than a year after its publication. Pamphlets of the work spread rapidly to 144 countries. Seminars and lectures on the work were held widely in many countries and regions.

In the end of last century when the cause of socialism was

faced with a grave trial owing to the consecutive setback of socialism in several countries the Chairman wrote a number of works including *Abuses of Socialism Are Intolerable* and *Socialism Is a Science*, proving the validity of the cause of socialism and the inevitability of its victory.

The leader published a lot of works giving correct answers to the questions of the time and revolution arising in the building of the Party, the state and the army, and in politics, the economy, science, education, public health and sport.

Once some officials asked the Chairman how he could write works with profound ideological and theoretical contents so quickly. He replied that he had no extra time to write when he had many things to write, that like a thirsty man digs a well, he always thought of his writings over his work, making sentences inwardly over the meal, composing contexts while walking, mulling over topics in the running car, and making outlines of the content in the intervals of work. During the time of writing in the room, he actually put down what he had prepared in his mind, he said.

The Juche idea is actively studied and disseminated in the African region.



Greatest Pleasure

Chairman Kim Jong Il often asked two questions. One was "Do the people like it?" which he raised when he received a report about the completion of something he had initiated for the good of the people. And the other was "What would the people call it?" which he asked when he learned that some officials had failed to fulfil their duty causing inconveniences and sufferings to the people. ▶

► Regarding the Korean people as the best people in the world all the time he devoted his all to the endeavour to provide them with a happy and civilized life. The total distance of his travels for field guidance across the country for the happiness of the people till the last moment of his life amounts to over 669 844 km, equivalent to making nearly 17 rounds of the earth. In particular, in the latter half of the 1990s when the Korean people had to undergo the Arduous March the leader worked perseveringly with a do-or-die will to overcome the prevailing difficulty and provide a stable and rich life to the people. On January 16-21, 1998, he inspected as many as 20 places in Jagang Province, travelling 2 400 km.

One day in November 2000 the Chairman inspected the Hwangju Chicken Farm till the dusk, when he said that though he had walked all day long visiting several units from early morning, he wasn't tired at all because he was happy to see the wealth of the people on the steady increase. He liked such a day, he noted.

Kim Jong Il's greatest joy lay in the people's happiness, and his yardstick in assessing everything was the demand and interest of the people.

One day he gave a task to an official in the light industry sector to make various samples of clothes with different kinds of domestic cloth. Later, he visited the exhibition hall to see the newly-made clothes. There he said that the processing of clothes was far from desirable in all aspects, and sternly pointed out that the samples of poor quality indicated what those kinds of clothes would be like when they were mass-produced.

That night he said to the following effect: I hear some senior officials urge their inferior officials simply to finish certain tasks quickly, overwhelmed with the

desire to carry them out before schedule. This is nothing but a practice of fame-seeking whereby they pursue their own honour regardless of the result of the work. When this manner of work is allowed, masses of the people alone will suffer from it. The yardstick in evaluation of officials' work and life is how much they contribute to the people's interests and happiness.

Noble Love for the Nation

Chairman Kim Jong Il, with a rock-firm will to reunify the country, made his painstaking efforts for national reunification, true to President Kim Il Sung's instructions on reunification. In June 2000, a north-south summit meeting was held for the first time in the history of national division, resulting in the adoption of the June 15 North-South Joint Declaration. It was a precious crystallization of the Chairman's noble love for the nation and his steadfast will to reunify the country.

Originally, the north-south summit was slated to take place in Pyongyang in July 1994, but it was faced with a difficulty with the unexpected demise of President Kim Il Sung that month. Despite the greatest loss of the nation Kim Jong Il saw to it that a message was sent to the south side informing adjournment of the summit, not full suspension of it. In April 2000, the April 8 north-south agreement for the inter-Korean summit meeting was adopted at his proposal, and he gave over 190 instructions regarding the summit.

During the Pyongyang summit that began on June 13, 2000, the Chairman spearheaded the adoption of the June 15 North-South Joint Declaration, whose keynote is *By Our Nation Itself*, by employing his deep insight

based on water-tight logic, broad common knowledge and interesting humours. He warmly treated the chief executive of south Korea and the members of the south Korean delegation with lofty morality, broad-mindedness and burning love for the nation. The Chairman personally went out to the airport to welcome his counterpart Kim Dae Jung, saying that he should receive him true to the good manners of the "Courteous Nation in the East" in consideration of his advanced age and his identity as fellow countryman. When the Chairman walked with Kim, he always yielded way to Kim, and at talks, he always let Kim make the first remark.

At a party during the Pyongyang summit the Chairman saw Kim Dae Jung and his wife sitting apart. He said that when the north and the south were discussing on the matter of reunion of "separated families," they were almost making another "separated family," which he was afraid would be a rumour in the world. Then he kindly asked them to sit at the same table.

At the time of leaving Pyongyang Kim's wife expressed her impression that no saint in the world would be as kind-hearted as Chairman Kim Jong Il of the National Defence Commission. And the world mass media featured the summit, saying, "Chairman Kim Jong Il left deep impression on south Korea and the western world with his very clear head, rich knowledge, smooth and cheerful speech, confident and dignified appearance and kind manners."

After the north-south summit talks the Chairman dispatched DPRK delegations and delegates to south Korea several times, and met Jong Ju Yong, honorary president of Hyundai Group of south Korea, Jong Mong Hon, president of Hyundai Asan, and ►

A Kimjongilia exhibition in Nakhodka, Russia in August 2015.



▶ other figures, and the mass media delegation from south Korea, indicating ways to smoothly solve problems arising in implementation of the June 15 North-South Joint Declaration.

Consequently, separated families and relatives in the north and the south visited one another and table tennis players from the north and the south had games for national reunification splendidly in Pyongyang while wide-ranging economic cooperation went ahead. This enhanced the atmosphere of national reconciliation and unity, bringing about the June 15 reunification era.

Celebrated Flower

In the 1980s Kimjongilia was bred by a Japanese botanist, making a sensation in the floricultural world.

In May 1991 the 12th International Flower Exhibition was held in the then Czechoslovakia. On display in the exhibition were over 820 species of flowers presented by 103 companies, organizations and institutions from 13 countries including the Netherlands, which is a well-known flower producer. In the exhibition Kimjongilia presented by the DPRK enjoyed enthusiastic ap-

preciation of the participants, winning the special prize and the gold medal. Even the jury appraised it as the best flower losing their cool-headedness. So the hall of Kimjongilia was specially arranged, and over 50 000 people visited the hall each day including the flower experts from different countries. And the exhibition was open one more day accepting the increased application for visit.

The visitors expressed their feelings as follows: “The birth of Kimjongilia is a great revolution in the floricultural world. Its birth is the happiness and pride of the humankind.” “I have boasted that I’ve seen and photographed all kinds of beautiful flowers in the world. But I’ve never seen such a graceful, beautiful and fascinating flower as Kimjongilia. The flower put the other flowers in Europe as well as in the world into the shade.” “Kimjongilia deserves a ‘royal award,’ not the special prize and the gold medal.”

Later, the flower was awarded top prizes at the Kunming International Horticultural Exposition in China in 1999, the Begonia Exhibition in California, USA in 2004, a world horticultural expo in the Netherlands in 2012 and a

floricultural exhibition in Mongolia in 2014. A hundred exhibitions of Kimjongilia took place in different countries.

The fascination of the flower led to enthusiasm for its cultivation. After the foundation of the North European Kimjongilia Association in Sweden, an international organization aimed at propagation of the flower, a lot of Kimjongilia associations and Kimjongilia lovers’ associations have been organized and Kimjongilia greenhouses opened in different countries and regions, including Indonesia, Japan and Ethiopia. Numbers of foreigners have taken roots of the flower to their home after visiting Korea.

The American Begonia Society, on behalf of the International Society for Horticultural Science, appreciated the variety properties and horticultural value of Kimjongilia and decided in 2004 to register it as Variety No. 991 with the jury’s unanimous approval. The magazine *The Begonian* published by the American Begonia Society wrote that “This flower is named after the august name of General Kim Jong Il, the great leader of the Democratic People’s Republic of Korea.”

Kim Won Sik

The Korean People's Army and February 8

FEBRUARY 8 IS A HISTORIC DAY WHEN the Korean People's Army (KPA) set a new milestone in its history. In an article about the KPA's parade in 1948, a newspaper said: "The parade of the People's Army started with the firing of the signal gun. Marching to the tune of the military music of the band, the parading ranks were in a sky-high spirit. Seeing the military units passing in front of Chairman Kim Il Sung we trembled in excitement. Oh, Chairman Kim Il Sung over there! We can see him over there! He is appreciating the cheers by raising his hand high."

That day, the KPA turned into modern regular armed forces from its predecessor, the Korean People's Revolutionary Army, showing the changeover in the solemn parade.

It was really a dramatic event that the regular people's armed forces were founded in only two short years after the liberation (August 1945) of the country from imperialist Japan's colonial yoke. Indeed, it was a difficult task to found modern regular armed forces at the time when the whole country turned out to build a new state empty-handed. Commanding officers were not enough to lead regular armed forces and there were no industrial facilities to produce modern military equipment, excepting the economy ravaged by the Japanese imperialists and empty

banks. But the Korean people regarded it as a blood-stained lesson and a historical truth that it was impossible to defend the country against the invasion of outside forces and escape the destiny of a ruined people without strong self-reliant armed forces. Moreover, after liberation the United States illegally occupied south Korea and was making preparations openly for war to invade the north in order to seize the whole of the Korean peninsula. Under the grave situation, it was a pressing task to found modern regular armed forces as soon as possible.

The leader Kim Il Sung, who had defeated by guerrilla warfare the Japanese imperialists—who were swaggering as "leader of Asia"—and accomplished the historic cause of national liberation, regarded the construction of regular armed forces as a vital problem related to the construction of a new Korea and the future of the nation and accelerated the building of a regular army purposefully. In 1945 the Pyongyang School was established and in 1946 the Central Security Cadre School was founded. The Marine Security Cadre School and the Flying Corps were set up in 1947. Thanks to the energetic guidance of the leader who paid deep attention to the training of military and political officers, founding of different services, arms, special units, and deciding military ranks and uniforms, and developing Korea's

Scenes of the first military parade of the Korean People's Army in celebration of its development into regular revolutionary armed forces in February 1948.





Captured American armed spy ship *Pueblo* and the letter of apology of the US imperialists.

► own armament industry, the KPA finally took its first step as regular armed forces. The birth of the KPA was a glorious declaration to put an end to the tearful national history of being ridden over by the foreign invaders because it was too weak to defend the country, and predict the future of a powerful independent nation.

The KPA firmly guaranteed the construction of a new country with its arms and created a miracle of winning the Fatherland Liberation War (1950–1953) against the allied forces of imperialists headed by the US. It won victories in succession not only in the all-out war but also in confrontations with hostile forces such as the *Pueblo* incident, “EC-121” large spy plane incident, and *Panmunjom* incident. It frustrated the

aggressive designs of the US and south Korean war-like forces in the 1980s and 1990s. Today the KPA equipped with powerful striking means and invincible tactics is capable of dealing positively with any kinds of confrontations like local or all-out war with conventional weapons, electronic warfare and nuclear war. Guarded by this army, the security and prosperity of the country and welfare of the people are firmly guaranteed. Advancing along the victorious road of national defence and protection of the people, the KPA is proudly demonstrating its power as the strongest armed forces under the wise leadership of Supreme Commander Kim Jong Un.

Yom Song Hui

A scene from the military parade and Pyongyang citizens’ mass demonstration in celebration of the 70th founding anniversary of the Workers’ Party of Korea in October 2015.



With Concerted Efforts

LAST YEAR THE CHOLLIMA STEEL Complex made innovations in steel production during the 70-day and 200-day campaigns by launching a mass-involving drive for technical innovation to realize Juche-based modernization of the metallurgical industry. Over the months it promptly supplied various kinds of steel materials including drawn pipes and rolled steel to main projects including the Ryomyong Street construction. It also greatly contributed to the earliest possible completion of the rehabilitation of the flood-afflicted areas in the northern part of North Hamgyong Province by supplying thousands of tons of steel materials. These successes are attributable to the fact that the managers, technicians and workers made concerted efforts and solved all problems by means of science and technology.

One day during the 200-day campaign last year the steel workshop, which was producing four or five charges of molten steel every day, was stuck in an obstacle—it was running out of the main raw material, that is, scrap iron. Now there took place an emergency meeting, but no one could suggest any reasonable solution. At the moment a senior official stood up and said seriously, “We have got a Juche iron production base, don’t we? It’s no use waiting for scrap iron without efforts. Let’s concentrate all our efforts on Juche iron production. I’ll get in charge of it.”

In this way the main direction to carry out the assignment of increased steel production was decided at the meeting. A lot of technical problems cropped up in the process of using Juche iron for raw material. New methods of furnace operation had to be found, and the melting time and deslagging method had to be set completely different from old ones. Everybody in the steel shop including the chief engineer, the production manager and smelters groped for solutions.

It is impossible to advance even a step unless we break with old methods, conservatism and proclivity to import. Let’s accomplish the assignment of increased steel production by putting our facilities in

normal operation through a mental war, a scientific and technological war—this was their determination.

Carrying on with the immediate production assignment on one hand, they found a new way of melting, heating the tundish with anthracite gas instead of heavy oil and removing the slag with domestic materials on the other. However, the sense of responsibility—even a small failure was not permissible—weighed on the field engineers. The technicians and workers of the steel shop gradually increased the ratio of Juche iron in the feeding of material. Finally they set a bold technical task of producing molten steel from the Juche iron alone abandoning their old production method. The day they first charged the furnace everyone in the complex focused on the UHP electric arc furnace in the steel shop. Engineers thoroughly examined the charging order and amount, and the inputting time of electrode, secondary materials and additives. Finally raw materials were put in and the electrode became red-hot. Molten iron began to boil. The examination of the sample showed the steel had a low carbon content true to the index. It meant a success at a go. As the result, a new method was established for production of steel with a low-carbon content using the Juche iron alone.

Additionally, the complex, with concerted efforts of the officials, technicians and workers, opened a prospect to produce more steel materials including rolled steel by finishing the installation of an oxygen plant with the capacity of 1 000 m³ per hour, and the construction of a refractory factory with the capacity of 5 000 tons, a high-temperature air combustion heating furnace with the capacity of 6 000 tons and two more furnaces. Today the employees are making concerted efforts sharing the same mind to support their country by producing more steel.

Sim Chol Yong



Increasing Varieties of Products

THE MANGYONGDAE Revolutionary Site Souvenir Factory is situated in Mangyongdae District, Pyongyang. The factory was inaugurated in December 1979 to produce souvenirs for visitors to the revolutionary sites including revolutionary battle sites. The factory occupies a small area but the souvenirs produced by the factory have been appreciated by people for decades. In the 1980s the urea resin products of the factory—tea trays and fruit vessels—were in high demand.

In only six months after its inauguration the factory fulfilled its assignment prescribed in the national economic plan at 160% and it has over-fulfilled its yearly assignment every year. In the course of this, kinds of products increased continuously—hangers, shell pictures, jewel paintings, handbooks, moss handicraft and pyrographs were produced.

In recent few years the factory attained a completely new face, discarding the old appearance. Along with the project of facelifting the buildings, modern production processes were newly laid—for the manufacture of zips and melamine resin products.

The factory produces zips using rayon and other home-produced materials from different factories. In the production site several streamlined processes are established making the most of the working space. Here zips of various sizes are produced at will with machines which are on a PLC basis. Furthermore, the factory is furnished with all production processes from zip tape weaving to dyeing, so it can produce metal and plastic zips of varieties of shapes and colours.

The conditioning facilities in the production site are also so-



Different kinds of zips and melamine resin products.

phisticated to save time and labour while checking the quality of zips accurately. The annual production capacity can fully meet the national demand for zips needed for production of necessities of life.

Melamine resin products from the factory also attract eyes as well. Since melamine resin is not harmful to human body and comfortable to use, it is in high demand worldwide and used for production of various goods like vessels, office necessities, toiletry and artefacts. The souvenir factory produces various kinds of goods such as tea trays and vessels of different shapes from melamine resin, which are both appealing to the eye and conven-

ient to use. They are conducting a campaign to put types of melamine resin products on a variety basis by actively introducing new designs and preparing various dies.

In the factory there are dozens of students attending online college—among them are the manager and heads of workteams.

It is the management strategy of the factory to lead the developing realities by making each of the employees well-versed in up-to-date science and technology.

At present the factory is cherished deep in the people's heart as it produces consumer goods as well as souvenirs—this is the changed appearance.

Rim Sang Jun

Ryongaksan Spring Water

MT. RYONGAK IN Mangyongdae District, Pyongyang, 292m above sea level, is a famous mountain with its mysterious rocks, where the greenery presents shifting scenes in different seasons. Its name Ryongaksan (Dragon mountain) comes from its shape resembling a dragon ready to fly up at any moment.

From long ago, the spring water of the mountain is well-known as good for longevity.

Spurting up through sedimentary rocks formed by volcanic activity 245 million years ago, the water contains various microelements proportionately. A long time ago this locality was called Hyangnodong (meaning a village with many old people) or Kuno-ri (meaning a village with many families comprising nine old people), and now it is called Wollo-ri (meaning a village with many people of longevity). The Ryongaksan spring water, in contrast





► to the quality of world-famous spring waters, attracts more attention because it has appropriate amounts of selenium that is good for treating cancer and retarding aging and fluorine that strengthens the teeth.

Ten years ago the Ryongaksan Spring Water Factory was built at the place and remodelled last year. It is now producing a large amount of spring water which is hygienically guaranteed. The factory is equipped with multi-stage filtering and sterilizing processes. The production site is completely isolated from the out-

side and is germ- and dust-free thanks to the air conditioning and purifying apparatuses. Production control and product management are conducted under an integrated production system. Recently the factory has increased production facilities and newly established a modern container production process of large capacity. All the processes including container cleaning, filling, checking and shipping are on an automated, conveyor and unmanned basis.

Manageress Kim Tong Suk says, "It is our goal to ensure that

all citizens of Pyongyang live long by supplying them with the hygienically-safe Ryongaksan spring water." Though the factory is increasing its production, the quantity of the gushing water is not running low. The spring water turned out by the factory was certified by SGS-CSTC Standards Technical Services Co., Ltd. on several occasions and has been rated high every year at the commodities exhibitions of the Pyongyang Department Store No. 1.

Kim Hyon Ju



Soil Analyser Developers

WE LOOKED ROUND several farms to know about the secret of increasing yield of crops per hectare in recent years. On our way we came to hear farm workers say unanimately that it is partly attributable to the soil analyser. Surprisingly, the device was developed by the Ryonghun Technology Joint Venture Company. The leading developer was Ryu Sung Nam, an officer of the company.

In 2000 Ryu began to concern himself with soil analysis. Since

through repeated experiments and used it to make an analysis of soil in different parts of the country. He found out that in areas with appropriate salinity the yield of crops was quite admirable. He knew he had to make scientific proof of it.

At his proposal the company set a target of developing a gauge that can measure soil composition in a comprehensive way. A research team was formed and the relevant work was intensified. Comparative examinations and

movable, which is a favourable condition for plants to absorb them. An analysis of yeast fungi showed that the content rapidly increases five or ten times as much as the original one.

Successive experiments and studies year by year finally bore a fruit. They completed a soil analyser which is used to measure temperature, pH, electrical conduction and salinity of soil and water and humic acid of peat. The device can adjust temperature and pH level automatically and a one-chip computer in it calculates the measurement data quickly. It was highly appreciated since it uses no reagent but only distilled water thus reducing trouble of several experiments as well as waste of labour. Introduction of the device in thousands of hectares of field ensured scientific accuracy and practical effects in farming, bringing an abundant yield.

In fact, when we visited cooperative farms in several regions, such as Ryongsong District in Pyongyang, Changsong County in North Phyongan Province and Sariwon in North Hwanghae Province, we saw a rich harvest. Crops remarkably improved in their length, thickness and size of their fruits. As a result the yield rose by as much as 1.5 or 2 tons per hectare on average.

Not content with the achievement, the company developed moisture measuring devices of crops and dried fishes which are necessary for storing and processing them. The successive research achievements have brought the company an increasing number of certificates of State-acknowledged sci-tech achievement, and invention certificates.

Kim Kwang Myong



Chief developer Ryu Sung Nam.

childhood he enjoyed measuring and assembling of electronic devices and in his middle school days he was called by nicknames like *obstinate guy* and *fiery enthusiast* since he fixed even a hopelessly broken radio.

One day he was gripped with the curiosity about soil. While measuring the soil in different areas with an ordinary measuring device he found the electric conduction different from area to area. He saw that soil composition is determined by electric flux which depends on salinity. For a good many years he developed a salinity measuring device

experiments were made continuously in close contact with the Soil Science Institute of the Academy of Agricultural Science and the National Experiment and Analysis Centre of the State Academy of Sciences. They worked even on holidays.

In the course of this they came to know about the influence of salinity on drought resistance while observing rice, corn and other cereals going dry in the areas with no or little salinity when the dry season set in. And they found that micro-elements in the saline soil like nitrogen, phosphorus and potassium become

New Waterproofing Agent Developed

IN JULY LAST YEAR AN intellectual property exhibition was held for the first time in Korea. The exhibition was followed by a presentation of theoretical ideas on those products that had been highly appreciated. One of the features was a penetrable waterproofing agent, which had won first place in the chemistry sector. It was developed by researchers of the catalyst institute under the chemistry faculty of Kim Il Sung University. One of these days I met the developers.

In construction waterproofing is one of the technical processes of crucial importance. Hence, studies on waterproofing agents have long been conducted, and many kinds of agents and waterproofing technologies have been developed. All those agents, however, have shortcomings in their introduction.

A few years ago Maeng Thae Won, a section chief of the institute, often happened to see that some articles of national importance were losing their value due to infiltration of humidity in the keeping place. So he suggested development of a new waterproofing agent as a research project. But some researchers argued that they should tackle it after they finished a project of national importance they were undertaking at the moment. It was because they were well aware that the development of a waterproofing agent was very difficult. Without any disappointment, Maeng encouraged his section members, saying that they could do anything when they had the idea that everything urgent in reality is their task of importance.

When the researchers got down to the task, however, they

were faced with knotty problems. The point of the discussion was how to solve the problem of durability of waterproofing effect. Finally they decided to solve it with an organic-silicon agent, because organic-silicon compounds are very stable in aging compared with other kinds of organic polymer compounds. Until that time there were three kinds of organic-silicon waterproofing agents—water-soluble agent, organic-solvent agent and emulsified agent. The organic-solvent organic-silicon waterproofing agent which is gasoline-soluble, and the emulsified organic-silicon waterproofing agent cost high while having a possible danger of accident; they are difficult to store and the coated film is quite fragile. On the contrary, the water-soluble organic-silicon waterproofing agent is very easy to synthesize and use.

The researchers made an analysis of the earlier research results and the data on different waterproofing agents. In the course of this, they resolved to develop a new kind of penetrable organic-silicon waterproofing agent with water as its solvent to suit the actual condition of the country. They conducted experiments repeatedly to solve the problems of waterproofing property, production method and condition and raw materials. They carried out hundreds of field investigations and experiments to fix rational gel-making time which decisively affects the consumption amount and penetration. At last, in the early 2016, they established a method of syn-



thesizing a new kind of penetrable waterproofing agent which costs half the imported one.

Their product has a good aging resistance, and sustains waterproofing effect though the outer surface of an object is damaged mechanically or by aging. As it is colourless, it keeps the colour of the surface of things. And it can be sprayed or pasted with brushes, so it is needless to do protective plastering, saving labour and time. It can be applied on granite, concrete, plaster, silicate and ore powder and so on. The most important thing is that it has no toxicity or smell, so it leaves behind little pollution. Its use and keeping are safe and convenient.

Maeng Thae Won said, “Now there is going a dynamic endeavour in the world to develop organic-silicon waterproofing agents. Recently several kinds of organic-silicon waterproofing agents have become commercialized. With a broad insight and power of execution we’ll develop new products suited to our country’s reality.”

The new waterproofing agent was registered as a cutting-edge technological product last year.

Chae Kwang Myong

Leaders of Sci-tech March

RECENTLY A PROACTIVE campaign is going ahead in the Democratic People's Republic of Korea to implement the five-year strategy for national economic development. The scientists, charged with the main task, are conducting a vigorous drive to

recycling water through biological filtering, thus turning the farm into an energy-saving, water-saving one.

Besides, they installed a heating and cooling system at a lot of places like the Central Mushroom Research Institute of the State Academy of Sciences, the Pyongyang International Football School, the Pyongyang Kim Jong Suk Textile Mill, the baby home and orphanage in Sariwon City, North Hwanghae Province, gaining favours of their employees.

Their range of research far exceeds geothermal-based heating. They have already carried out research tasks—development of a diffusion absorption refrigerator, a portable miniature diffusion absorption refrigerator using thermal energy, and a ventilation-style heat exchanger—which are of great significance in the development of the national economy.

Researcher An Chil Nam says, “Now diffusion absorption refrigerators are in wide use around the world. They operate at the temperature of -5°C to -18°C powered by natural gas and solar heat. We decided to make a refrigerator which is powered by methane abundant in our country.”

When methane is used for material, the refrigerator can be operated anywhere in the countryside with no electricity.

Ri Song Su, head of the research section, says, “During the Arduous March and the forced

march in the mid-1990s when everything was in short supply, we tackled this research task with the idea that we are leaders of sci-tech development in our country.”

First of all, they developed the generator structure fit for freezing, decided a suitable nozzle diameter and designed the structure of the gas-generated heat exchanger. When they nearly completed the condenser they had designed, they noticed some problems they had missed in the experiment. They had to do their work all over again.

At last they successfully made a refrigerator. Though it was not smart in appearance, they were happy at their own product. Not content with this success, they further conducted the research project, thus making a portable refrigerator. These kinds of refrigerators won medals at a national invention and new technology exhibition.

Recently, the researchers developed a ventilation-style heat exchanger, which is widely applicable in zero-energy and energy-saving buildings. It also won an invention certificate.

They are now engaged in the work to make a solar-used diffusion absorption refrigerator as required by the developing reality.

Now the campaign of harnessing natural energy is making a brisk headway thanks to the tireless efforts of the leaders of science and technology, whose principle is to keep their feet firmly planted on their land and look out over the world.

Rim Hye Gyong



Research work intensifies.

surpass the cutting edge relying on their own technology, materials and efforts in keeping with the demands of the era of the knowledge-based economy.

Among them are researchers at the geothermal heating system section of the Geothermal Energy Institute, the State Academy of Sciences. In July last year, they set up a system of using geothermal energy at the Pyongyang Terrapin Farm, which keeps the breeding grounds warm. They also established the process of

Teaching Contents and Methods Improve

RECENTLY THE TEACHERS of the Mechanical Science and Technology College of the Kim Chaek University of Technology have improved the teaching contents in conformity with the new educational programme in the current century and pioneered new subjects needed for development of the machine industry at present, thus making a great stride in education.

A few years ago Korea enforced a universal 12-year compulsory education. Accordingly, innovative teaching methods were being developed in the educational sector. In keeping with the situation the college saw to it that the department of machine production engineering spearheaded the work of establishing practical and advantageous teaching methods. The department made the teachers formulate new teaching methods which can help the students learn the knowledge of the adjacent sectors as well as their own realm of studies and develop their creative ability to the maximum. Meanwhile, it also encouraged each of the teachers to develop one or more new teaching methods. Together with this, the college integrated all subjects on the same basic principles which had been diversified in special subjects in the past, and implanted in the teaching contents general cognitive problems, general exercises and writing of general essays so that students could comprehensively analyse and apply the knowledge they learn in lecture.

The teachers gave lectures by new teaching methods by which they presented problems and let the students find and prove answers with concerted wisdom. It improved the students' cognitive power of understanding the problems given in class, and they could have the ability of finding ten in one. The college pushed the

effort to have this kind of teaching method adopted by all the teachers, and arranged training courses, demonstration lectures and the work of overtaking others. The teaching method developed by a teacher of the machine production engineering department was appreciated as a national model, and the meeting was held to show the method to college teachers from across the country. This method bore fruit; students of the college won special prizes and first place in the individual and team events several times at national three-, four- and five-dimensional designing contests of students of technical colleges held every year.

The college also puts emphasis on the work of mapping out multimedia-used teaching plans. It has already set up multimedia-used e-classrooms at a high level. On the basis it has made thou-

sands of e-teaching plans on different subjects including *Computer-aided Machine Designing* to be used in lectures. IP cameras have been installed in all laboratories to support experimental lectures by TV and computer, and departments and laboratories have been connected by intranet so that the students and teachers exchange information conveniently.

Besides, the college has modernized a dozen laboratories such as those of machine processing, robot, hydraulics, mechanical electronics and precision measurement, and developed scores of experimental devices like a general experimental chart of computer control and a general experimental device for electrical engineering and electronics, enabling experimental lectures of certain subjects to be done with computer.

Today the college is putting concerted wisdom and effort in mapping out teaching plans of practical value to train competent personnel.

Sim Yong Jin

The knowledge learned in lecture is built up through different practices.



Manager's Story

THE PHYONGCHON Koryo Medicine Pharmaceutical Factory located in Saemauldong No. 1, Phyongchon District, Pyongyang, is popular with the public for various kinds of Koryo medicines. Though small, Koryo medicines produced by the factory are sent to lots of hospitals in Pyongyang and the rest of the country. Several kinds of medicines such as Hwanggumunhaeng Hyperlipemia Pill received State patents and were highly evaluated in the intellectual property exhibition. Manager Mun Sun Ok says, "My factory is equipped with processes for production of various kinds of Koryo medicines in the forms of injection and pill. We are producing over 60 kinds of Koryo medicines." And she tells a story.

One day in 2008 on her way to the Grand People's Study House to get information for modernization of production processes, Mun saw a girl student, who she had often seen, reading something hard. Out of curiosity she approached her. The girl was still reading the book. It was a book on the Koryo medicine. Sun Ok was so glad and asked if she was studying medical science. She replied that she was studying in the chemistry faculty of Kim Il Sung University. And she continued to say that it was her

dream to make a contribution to the health promotion of the people by developing further the traditional medicine created and developed by the nation over a long time. Her name was Yun Jin Ok. For the affinity Jin Ok came to the factory as soon as she graduated from the university, and began her work as an engineer. Later there took place serious arguments and repeated discussions between Mun and Yun in the manager's office. They talked about the trend of development of Koryo medicines and the prospect of the factory.

Yun brought amazing achievements successively supported by the manager's active encouragement and tireless enthusiasm. At first she began a research into a kind of Koryo medicine to treat cerebrovascular disease. It was a complicated sci-tech task requiring application of new research methods on the basis of comprehensive analysis of the achievements made in modern biology and medicine. And it needed a great amount of time and effort. But Yun succeeded in developing in a year an effective Koryo medicine to relieve cerebral and myocardial ischemia with the help of the tech force of the factory. It brought her a DPRK patent. She conducted a research on

calcium and was granted an academic degree in 2012. Her achievements meant her factory's. The factory has got eight patent certificates and over 30 certificates of introduction of sci-tech achievements.

Today the tech force of the factory ranks in the top enterprises in the Koryo medicine industry. The technicians unanimously say it is attributable to the manager who regards science and technology as the main thrust of business and has the greatest interest in it.

Mun says, "There are still a lot of things to do to put the Koryo medicine on the scientific and modern basis. I will stand in the van of the effort to support the idea and intention of the Workers' Party of Korea to realize the integration of science and technology with production."

Yun says, "We will try to bring the people more pleasure by vigorously conducting the clinical and basic research work to put the Koryo medicine on the scientific and modern basis."

Now the factory is pushing ahead with the integration of science and technology with production and advancing to attain the aim of producing more Koryo medicines.

Kim Myong Sim



Radiation Injury Is a Past Story

THE RADIOLOGY INSTITUTE of the Academy of Medical Science is located in Phyongchon District, Pyongyang. A lot of patients of different diseases, especially those with cancers, visit it to have radiotherapy. Recently the institute has developed new medicines which help patients have safe treatment without any harm from radiation, thus increasing the rate of complete recovery.

Tiopronin Made in Korea

In the past there was a thorny problem in radiotherapy. The harms and side-effects of medicines used to prevent harms from radiotherapy were so extensive that they could not be used repeatedly. In the clinical practice a number of problems arose due to the medicines' harms and side-effects, and in particular, it was impossible to administer the medicines to those patients with a small number of leukocytes and functional disorders in liver and kidney, and those who were weak. So, the development of a new kind of medicine was an urgent task to relieve the patients of the burden of treatment while giving a hope of recovery.

The researchers of the institute carried on the studies of reference documents and the examination of the effects of numerous medicinal substances for prevention of damages from radiotherapy. At last they chose tiopronin as a new medicine. Since it is little poisonous its administration before irradiation or within three or five hours after irradiation can neutralize the harmful effects from all kinds of irradiation. But

according to the established formula the process of its manufacture is complicated while requiring special experimental equipment and expensive materials.

The researchers conducted studies to develop the medicine by the method of synthesis suited to local industrial conditions. They completed a three-stage manufacture process instead of the old four-stage process and prepared all necessary materials from domestic resources, thus opening a vista for increased production of the drug. The examination showed that all indices of the medicine confirm with the international standard. They also conducted the research to prove the effect of the medicine pharmacologically, and fixed the effective dosage and duration.

The tiopronin capsule of the institute was registered as state medicinal standard last year.

Tanggwi (*Angelica gigas*) Ferulic Acid Haematic Tablet

The institute developed Tanggwi Ferulic Acid Haematic Tablet which can improve the hematogenous and immune functions after radiotherapy. It was put in the list of the standard medicines of the state.

Tanggwi, a perennial herb of parsley family, is one of traditional herbs used by the Koreans from of old for treatment of debility, chronic wasting diseases and women's troubles. Ferulic acid, an effective ingredient of tanggwi, has pharmacological actions like improving memory, increasing blood, improving blood circula-



Section chief Pak Hak Il.

tion, fighting oxidation and inflammation and prevention of harms from radiation, so it is an ideal natural immuno-activator.

The new Koryo medicine helps people working at the computer professionally, cancer cases getting radiotherapy, medical workers operating roentgen equipment, and those who are constantly exposed to influence of electromagnetic waves and radiation to raise numbers of leukocytes and erythrocytes, and haemoglobins up to the normal level. The tablet can further shorten the period of treatment by improving immunocompetence after operation or illness, and is very effective in treating blood-related diseases like hemorrhagic anemia and lymphopenia, and autonomic imbalance and nervous exhaustion.

Pak Hak Il, section chief of the institute who is one of the developers of the medicines, says, "In the past it was thought unavoidable to have side-effects in radiotherapy. Owing to it, some patients were disappointed as they couldn't get greater successes in treatment—I was really sorry about it. But the development of these new medicines has got rid of that problem."

Rim Ok

High Passion for Sports Activities

THESE DAYS MASS-BASED SPORTS activities are growing ever more passionate in the Democratic People's Republic of Korea—the 13th People's Games held last year is a good example. It is a great all-people festival that has happened for decades to bring about a new change in sports development by stirring up athletes and working people's passion for sporting activities.

The People's Games is held every four years. It has tens of events including football, basketball, volleyball and tennis. It is divided into professional and amateur categories and is open to anyone—sportspersons, officials and working people.

Last year the amateur category included ball games like football, basketball and volleyball, and national events like Taekwon-Do and *ssirum* (Korean wrestling). The most attractive was the Pyongyang men's basketball team. The team was mostly made up of office workers and they took first place defeating all rivals with technical superiority. They showed fantastic shootings in every match and what was more impressive was the officials' leading role in sports activities and their noble sportsmanship.

In the tennis event, the South Phyongan Province team was ranked high. Having learned a lot of experience and lessons from the National Inter-provincial Games-15, they achieved an unprecedented success at the last People's Games. The coach organized the team with industrial and farm workers from the lowest echelons who had practiced tennis while engaged in everyday sports activities. And he trained them strenuously. He concentrated on the



Scenes from the 13th People's Games in October 2016.



► team's unity by breathing the same air with his players—which brought about due results.

Teams, which achieved successes in the competi-

tions of the amateur category of the People's Games last year, were mostly organized with those units that spearheaded the mass-based sports activities in their respective regions as the backbone. The women's basketball team of Kangwon Province is a good example. The players were all employees of the Provincial Koryo Medicine Manufacture Management Office, which had always been in the leading position in the provincial volleyball contests. Understanding the importance of basketball, the workers now learned basketball persistently. Pursuing a high aim of becoming the provincial winners and a powerful team in the country, the officials often organized basketball games. Thus, all employees improved their technical skills. Despite a short career, they organized the basketball team representing Kangwon Province last year. The team made a debut, coming within the top three places at a try. They attracted spectators for their competent management of matches through admirable teamwork.

Players and coaches who participated in the People's Games last year made a great determination. An official from North Hwanghae Province who participated in the badminton games as both player and coach uttered his determination to win in the coming games by making the most of his experience and actively conducting sports activities among the masses, saying that an official can do his work successfully only when he combines his immediate jobs with sports activities. The women's volleyball team of Rason City made up of only young ladies said they got confident that they would be able to win if only they actively take part in everyday sports activities. They remarked they keenly felt how important activities are when they are done every day involving all people.

Today sporting activities are a daily routine of masses of the people at all units in the DPRK. It is a popular practice for everyone to try to learn high sports techniques.

Sim Hyon Jin



Competent International Referee

AT THE 31ST OLYMPIC Games held in Brazil last year, the women's football games controlled by Korean referees left an indelible impression on the sportspersons, enthusiasts and spectators.

Among the international women's football referees appreciated by FIFA is Hong Kum Nyo.

From player to referee

The women's football started in the Democratic People's Republic of Korea in the 1980s. Seeing women players score wonderful goals at games, people began to change their opinion that football was an event only for men.

Hong was a pillar of the first women's football team of the country. She started football influenced by her mother. Thanks to the encouragement of her mother who was a basketball player, Hong shifted her speciality from music to football with curiosity and aspiration for football.

She began to play football at twelve and became a player of the national team for her good motor sense and tireless effort. She often participated in international games. But she had to give up football at 23 because she was injured and diagnosed that she couldn't play football any longer.

Recollecting the days, Hong says, "I wanted to do something about football. I had a love of football." After graduating from the Korea University of Physical

Education, she became a football referee.

Her goal

Hong has worked as international women's football referee for over a dozen years. Appointed as



Hong Kum Nyo (right).

international women's football referee in 2002, she began to referee international games the next year.

Since then she directed a good many international competitions including the Asian Championship and the FIFA U-17 Women's World Cup and distinguished herself by controlling the players and coaches to display the abilities to the full as well as spectators' excitement.

Predicting the correct attacking direction, she always umpired with an immediate decision in the right place at the exact time, attracting the attention of the spectators. According to the FIFA decision, she was selected as a referee at the finals of the Women's World Cup held in Canada in 2015. Thus, she reached the World Cup finals as she had wished, controlling the world's

most powerful teams. With the event she became an international referee fully acknowledged by FIFA. The game she umpired was recorded in the football history as the most dramatic and popular of the Women's World Cup matches.

Then she was selected as a referee at the 31st Olympic Games held in Brazil last year. She demonstrated her ability to the full with her attractive judging. In particular, the semifinals of the women's football game between Canada and Germany, the most hopeful teams, was a fierce fight. Football experts estimated that the semifinal was the highest-level game in the women's football games at the 31st Olympics, as significant as the finals.

After the Olympic Games, Hong Kum Nyo and other international women referees from Korea were highly appreciated by FIFA. The chief of the FIFA referee department said that the referees from the DPRK had showed good profiles at the Olympics, unusual in the football world, and that FIFA was more confident of the abilities of the DPRK international referees.

Asked what she would do after the referee's career, Hong answers, "By becoming a referee at the World Cup and Olympic Games, I have fulfilled my hope, which I nurtured when I was a footballer. I think I'm going to be an instructor to train able football referees. I'll work for the development of football all my life."

Rim Ok

Buds of Talent Nurtured

SOME TIME AGO WE visited the Phyongsong Schoolchildren's Palace in the midtown area of Phyongsong, South Phyongan Province. The three-storey palace with a gable roof occupies a wide area. Ri Myong Chol, deputy director of the palace, met us and said, "The country has honoured us educators with the noble title of revolutionaries who foster and bring up the rising generation of the country just like the gardener takes care of flowers and trees. It is our unanimous will to bring up the children decently as pillars of the country in the palace provided with fine conditions for fully developing their talents as they hope."

The first place we entered was the gymnastic dance room on the first floor. There a girl caught our attention. She seemed to have a keen musical sense, and looked pliable and vital. Tutor Hong Chun Ok said she was Jo Hyon Hwa, a first grader at the Jungdok Senior Middle School. Jo said, "I played the role of the heroine in the gymnastic dance to the tune of *Our Grateful Sun* at the New Year celebration performance last year. At the time, my father was moved to tears, saying he had never thought his daughter, the daughter of an ordinary driver, would appear on such a fine stage." The tutor Hong said many of her pupils had been taken to central sports teams and the cir-

cus, proudly adding that they were number one players in calisthenics and heavy gymnastics there.

We left the room where the pupils were dancing to the tune of a cheerful song and proceeded to the art room. We found the room quiet and clean where the students were absorbed in painting. Ri Yu Song, a boy from the Jungdok Primary School, said full of pride, "I like best the hour when the teacher gives us lessons in sketching. I have won a diploma and a medal at a national sketch festival. In future I'll try hard to paint more beautiful pictures of my ever prosperous hometown." We then visited the calligraphy room, where tutor Kim Jong Do showed us calligraphic works *Blizzards over Paektu* and *A Patriotic Forest* done by Ryang Hun, a student of the Toksong Senior Middle School. He said many of his disciples were now capable of writing different calligraphic styles and expressing their ideas and intentions in their works.

Guided by the deputy director to the second floor, we looked into the IT lecture room. Students of different ages were sitting before computers listening intently to the lecture. Under the guidance of teacher Kim Kyong Chan, the students were fairly good at programming. Kim said all the students were highly proficient in programming and multimedia skills. He showed us to Mun Sung

Gwang, a first-year student of the Hacha Senior Middle School, who was so inquiring and tenacious that he had already become well-versed in the subjects of the third-year course of study and was standing out over others in programming. He also told us how he had come out top in a national IT contest. Now we dropped into the math room. We were greatly impressed by mistress Jo Myong Bok's lecture which had something deep helpful in developing the students' scientific thinking power and fostering their ability of application further and also by her pupils' capacity of readily assimilating the contents of her lecture. Kang Song Il, a boy from the Yangji Senior Middle School, said, "I had a hard time working out the mathematical problems the teacher set us yesterday. But when I managed to solve them all by recalling what I had learned and going over the formulas, I felt great and refreshed. I'll be a famous math doctor in future."

As we were leaving, the deputy director said, "People call our palace 'Head House' for the reason that it is rearing talents for all branches of life such as science, art and sports. I think it implies their earnest wish and expectation for the palace to turn out more pillars of the country."

We left the palace hearing the endless sounds of singing and reading.

Kim Kwang Myong

The IT circle.



The calligraphy circle.



Man-and-wife Teachers

IN AUGUST LAST YEAR the first national painting contest of students of fine arts class (or circle) of senior middle schools was held in Pyongyang amidst the concern of fine arts experts and enthusiasts. Among many competitors students from the Kuchon Senior Middle School in Sariwon City, North Hwanghae Province, rose to fame. Their skills were remarkable, and what struck the participants with wonder was that their teachers are man and wife—Sin Chol Ho and O Song Suk.

When people asked the winners about the secret of their success, one of them said, “What came first in my mind when I sat before the panel was the images of my art teachers. They’ve always told us that we should work with a burning patriotic mind even when we make a stroke.”

To the students Sin and O were as good as their real parents. Sometimes they were more worried than anyone else about their students’ wrongdoings and made

painstaking efforts to set them on the right track. That is why the students follow and respect them sincerely.

One day a few years ago when Song Suk was examining pictures created by her students, she found one quite unwelcome. It had been prepared by Kim Hyok who she had thought had a quick eye for learning. Now she noticed there was little progress in his skill. That meant the boy lacked perseverance. After a discussion with her husband she organized a sketch contest of the circle members the next day. And she summed up the result of the contest every day, praising the students who had done good jobs. Kim Hyok, who had been proud of his ability, thought a lot when he failed to win the contest. After summing up the week’s contest Song Suk told a story to the students.

Once upon a time there was a good artist in a village. One day another artist came to see him and asked him to see his picture.

He said, “I finished this picture in a day, but it has been on the shelf for a year.” After scrutinizing the picture the veteran artist said to his visitor, “Just make a picture for a year, then it will be sold within a day.”

Hearing the story Kim understood for what the contests had been arranged, and why his teacher told such a story. Now Kim polished his art harder assisted by his teacher.

A good many years have passed since O finished college and began to teach at the Kuchon Senior Middle School following her marriage with Sin, a teacher at the same school. Maintaining the career of couple teachers was not an easy job. Sometimes they were so busy working out teaching plans that they forgot their little daughters’ birthday, and other times they had to wake the children, who had fallen asleep while waiting for them, for a belated meal.

The couple has their own pleasure—it is reading letters and congratulatory messages from their old students. Seeing their calligraphic letters Sin and O are happy to feel their wholehearted wish and ever-developing skills. They are both first-class teachers. They always say to their students, “Art pieces with a significant meaning do not come of their own accord. They come from the mind that ardently loves the country and can perceive the beauty of the country. You should create picture with your heart, not simply with your brush.”

Today the couple is putting their heart and soul into training promising artists.

Kim Myong Sim

Art teachers Sin Chol Ho and O Song Suk (centre).



Natural History Museum (1)



SOME DAYS AGO, I visited the Natural History Museum located at the foot of the picturesque Mt. Taesong. It stands in the Central Zoo which was newly reconstructed.

In the entrance to the museum, I met guide Ri Son Gyong. She said that the museum went up splendidly last year as base for diffusing knowledge of science and giving profound knowledge of nature to youth and students as well as working people, and as place where they can have national and international academic exchange.

According to her, the museum has a total floor space of 35 000 m². Its exhibition area is over 14 000 m² with more than 30 000 exhibits of over 3 000 kinds. In the functional aspect the museum is largely made up of exhibition rooms, an e-library and collection rooms.

On the ground floor are the

central hall, an outer space hall and a Palaeozoic hall. There is a general hall on the first floor; animals and plants halls on the second floor; and a gifts hall and temporary exhibition halls and an e-library on the third floor.

Now Ri guided me into the central hall. In the centre of the hall I found skeletons of three real-size dinosaurs which are typical of the Mesozoic era called the “reptilian age.” In addition, several pterosaurs are seen in the air in the central hall as if they were hovering in the sky. I felt as if I were in the world of dinosaurs. According to Ri, fossilized footprints of dinosaurs were discovered in Ryonggung-ri, Phyongsan County, North Hwanghae Province in Korea, and registered as natural monument.

Then we went into the outer space hall on the ground floor. It is designed to give visitors broad knowledge of the solar system and

Earth—that were formed in the course of evolution of the cosmos—in combination with the origin of life. It also gives deep knowledge of the formation and kind of the galactic system, the formation and evolution of stars and other planets like Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune which go round the Sun. There I could renew my understanding about the Earth and the formation of four seasons in Korea through the vivid visual aids of a globe.

I also went into the astronomical observation hall with 30 seats. Jang Pyol I, a researcher of space and earth science at the museum, said that schoolchildren and other visitors can watch a dozen pieces of multimedia including *Star Shower*, which carries common knowledge of astronomy. When the light was turned off, a scene of dark sky appeared and showed common



The central hall.

► knowledge of stars. One of the editions was about a meteorite that fell down in a country in March 1976.

Now I headed for the Palaeozoic hall. It gives knowledge of the origin of Earth and humankind. The general Palaeozoic section displays on the walls photographs of various fossils given by foreign countries, and the glassed exhibition stands have stromatolite fossils discovered in the Sangwon and Unryul county areas in North

Hwanghae Province in Korea and other fossils including primitive jellyfish and seaweed which belong to the first cellulous organisms of about 620 million years ago. They were discovered in the Hwangju and Yonhan county areas. Besides, it shows in detail about the plants and animals in the Palaeozoic, Mesozoic and Cenozoic eras.

At the museum, I met Kim Yong Hwan, a geography teacher at the Janggyong Junior Middle

School, Sosong District, Pyongyang who was there to teach pupils broad knowledge of nature, and one of his students Kang Sun Yong. Kim Yong Hwan said, "We've been here several times. Indeed, this museum is an encyclopedic one that gives schoolchildren and working people a wide range of knowledge about nature. All the exhibits are vivid and all the materials are very definite. In the future, too, I will be here very often with my students." Kang said, "Looking round the museum, I have got a correct understanding about the formation of anthracite rich in our country. I will study harder and harder to become a scientist who will make a lot of inventions to make the most of anthracite."

Passing through several halls, we arrived at the evolution cave. On the left of the cave are displayed models of typical lives in each stage of development of organisms from the birth of the first life to the birth of human beings, and on the right side is hung a plan of continental layout in various geological ages.

Saying that the animal ancestor of the human being was a monkey with two legs and the

Working people and schoolchildren look round the Mesozoic hall.





A head model of Neolithic man.

▶ modern man was born through the stages of Pithecanthropus, Palaeolithic man and Neolithic man, the guide concluded that lots of fossils of mankind and their stonework as well as mammal fossils were discovered in the Taedong River basin centring Pyongyang, vividly proving that Korea is one of the cradles of



The general hall of ancient life.

mankind. Seeing a panorama and wax statues in front of the cave, I understood living activities of our ancestors who made stoneworks, hunted animals and collected plants while inhabiting caves.

In one of the exhibit stands is a model head of a Neolithic man. “Look at this model head. What do you think he is doing now? He is

thinking now. The human being with independence, creativity and consciousness was born as many as 4 600 million years after the appearance of the Earth,” the guide explained.

After hearing her explanation about the exhibits on the ground floor, I went upstairs.

Sim Chol Yong

The outer space hall.



Popular Brassware

TODAY BRASSWARE, WHICH HAS A LONG history of thousands of years in Korea, is drawing public favour as famous product in modern times. In the Pyongyang Taesong Jewel Processing Factory, producer of brassware, there is a book reflecting the people's opinion. Excerpts:

Irreplaceable Favourite

I wished to use brass vessels for a long time. But they tarnish soon, and take much effort to polish. When my youngest son came home after visiting the Korean Folklore Museum, he told me that we should serve foods to grandfather in brass vessels which are known as healthy things from ancient times. At that time I was embarrassed as I fell short of my duty.

So, when I saw brass vessels made by the Pyongyang Taesong Jewel Processing Factory in a store and heard about their specific information, I couldn't contain my delight; the factory made products by applying sophisticated technology so that they could be used for a long time while retaining brightness. Golden shine, elegant forms and exquisite patterns, and delicate decorations—all of them were in my favour.

I bought a set of different kinds of brass vessels; a cooking brazier for *sinsollo*, a kettle, cups, and those for noodle and rice. Now when I select dishes for serving foods, I naturally choose brass vessels. They have become favourite things in my life.

*Ri Son Hwa,
resident in Tangsang-dong No. 2,
Mangyongdae District, Pyongyang*



Popular Vessels

The visitors to my restaurant (the Pyongyang Noodle House) unanimously say that taste of food varies according to dish, and that flat vessels in my restaurant add to the noodle taste.

Actually, brass vessels have a good effect on the human body and the taste of foods. Despite the fact, it was somewhat burden to us waitress to serve noodles in flat

Various kinds of brassware.



▶ brass vessels to so many customers day after day in the past, because the trays weighed a little heavy.

Now we are free of such an inconvenient thing—the vessels are light. Some time ago technicians of the Pyongyang Taesong Jewel Processing Factory visited my restaurant to sound out the opinions about their brass vessels. When I asked them the secret of cutting the weight of vessels, they said that they made vessels by rolling brass, not by the previous method of moulding. They added that they had made painstaking efforts to manufacture the equipment which instantly lengthens a thin brass plate and makes the form of vessel.

Whenever I weave around tables nimbly, I extend my thanks to the makers of that equipment.

Pak Ok Ran,
waitress of the Pyongyang Noodle House

The Best National Commodity

Each brassware item of the Pyongyang Taesong Jewel Processing Factory has unique charm for its harmonious combination of antique quality, modern beauty and utility. The products were chosen as the best national commodity and received the December 15 Quality Medal and diploma. They are really wonderful. I was told that the factory's products had enjoyed great popularity in an expo held in a foreign country, and I think they deserve it rightfully.

What I'm genuinely appreciative of is the fact that the workers of the factory made the famous commodity with the materials and technology available in our country, not by imported ones. Brass dishes, spoons and chopsticks were favourite things made and used by our ancestors from of old. Those people who have made famous brassware associated with the nation's soul are true patriots, and the things they created are truly the priceless fruit of their love for their own things. In consideration of this fact their brassware is the best national commodity in the true sense.

Kim Song Chol,
researcher at the Control Machine
Institute of the State Academy of Sciences

Wonder Efficacy of *Shizandra Chinensis*

SHIZANDRA CHINENSIS TASTES SWEET and sour in the bark and fruit, hot and bitter in the seed and salty as a whole. For those five tastes, it is called *Omija* (fruit with five tastes) in Korean.

As the sour taste is dominant among the five tastes, the plant has the main function of astriction. Thus, it was used for cough and profuse perspiration from long ago due to the weak lung and kidney. It is widely used for a tonic as well. It is good for congenitally weak persons and those who are prone to fatigue, difficult breathing and perspiration because of after-effects of different diseases. It is effective for not only improving sight and vision field and retarding the aging process but also protection of liver and treatment of acute and chronic hepatitis.

According to recent scientific researches, *Omija* has a lot of medicinal effects including that in cognitive faculty improvement. Promoting the cerebral function and mental relaxation, it improves the cognitive faculty and working efficiency. Thus, taking it everyday is good for persons who have insomnia and less cogitative faculty, concentration and memory, and especially examinees, neurasthenics and mental workers who are susceptible to mental and physical fatigue.

The plant is also good for heart and circulatory system. For its cordial effect it is good for people who have weak heart, high or low blood pressure; it not only improves nutritive conditions but also accelerates circulation of blood by decreasing the cholesterol content in blood and enlarging blood vessels of the heart. It is effective for treatment of gastric ulcer as it adjusts the secretion of gastric juice. A particular effect is found in chronic diarrhea. It is good for chronic bronchitis and bronchial asthma, and it is advisable for men with weak passion to take it.

It is better to drink warm infusion of two-four grams of the fruit than the boiled water.

Mun Il Jin

A New Appearance of Rungna People's Pleasure Ground

GENERALLY, A MAZE IS a complex system of passages or paths between walls or hedges and is designed to confuse people who try to find their way out, often as a form of amusement. Last year, a maze play ground was opened at the Rungna People's Pleasure Ground.

It is a little way off the centre of the pleasure ground, crowded with people full of curiosity. The maze surrounded with hedges has paths with a total length of 550 m. It has one entrance and one exit. And several lamps are fixed on the floor, and cameras, speakers and dozens of illuminations are installed in it.

Seeing the people lost in ecstasy, rapture and fascination, Jo

Song Hui, head of the facility, says with a smile, "We in the control room watch the people in the maze with cameras, and show the way out to the stray people."

There was a woman entering the maze after her husband who was sure of finding the way out; doubtful girls exclaimed for joy when they found the exit; and a group of children calling each other and getting lost in the maze were greatly embarrassed when they found themselves coming out by the entrance.

Ri Un Ju, 80, from Sinhung-dong No. 2, Sariwon, North Hwanghae Province, who was sitting on a bench watching the merry scenes, said, "I'm really pleasant and delightful today, spending time at the Rungna People's Pleasure Ground. I've just seen the feats of dolphins at the Dolphinarium, and enjoyed myself in the maze. It really made me refreshed. For fear of getting lost, I was anxious at first, but when I found my way out, I

thought I was worried for nothing. Now I feel confident I could find my way out through any labyrinth."

Kim Sang Song, oxygen supply worker of the Medical Oxygen Factory who came out first from the maze after making a bet with other visitors that he would be the first to come out, said that he was surprised when he heard that thousands of trees had been planted there. He added that the air was very clean and fresh at the place and that whenever he saw new amusement facilities being set up for ordinary people every day, he thought he would work still harder. Kim Chang Nam, section chief of the pleasure ground, said, "Modern recreation grounds have been built at scenic spots across the country thanks to the policy of our blessed social system. We will always take good care of them to provide the best convenience to the people."

Kang Hye Ok

A maze.



Enjoying the Full Moon of the First Lunar Month



Yakbap (sweet rice).



Poksam.

WHENEVER THE LUNAR January 15th comes round, all the homes and streets of Korea are filled with a festive atmosphere. It is one of the folk holidays called *Jongwoldaeborum* enjoyed by the Korean people from of old. It is on record that the Korean people kept the day as a gala day from the time of the Three Kingdoms. In the era of the Koryo dynasty (918–1392), it was observed as one of grand folk festivals. The holiday extended over two days from the lunar January 14th as Minor Full-Moon Festival and to the next day as Major Full-Moon Festival.

Various colourful functions were organized on the occasion wishing good luck and a bumper harvest in the New Year. Typical ones were erecting a pole for rice stack on the Minor Full-Moon Festival day, and viewing the moon while making a bonfire on the Major Full-Moon Festival the next day. Especially, the scene of viewing the moon was most impressive. In the evening of Major Full-Moon Festival, all the villagers went up the hill at the back of their village and enjoyed the view of the rising full moon. It was

believed that the first person to see the rising full moon would enjoy good luck that year, and the villagers would forecast a rich or poor harvest of the year from the look of the moon. So, the people would try to see the rising full moon ahead of others.

Meanwhile, all the villagers, irrespective of sexes and ages, sang and danced merrily together till late at night. Various folk art plays were performed and different folk games were played at different local areas. Among the

interesting folk games were a tug-of-war, a cart fight, a kite-flying contest and a pinwheel play. At the same time, they feasted themselves with festival delicacies. Special dishes of the First Lunar Full-Moon Festival included *ogokbap* (rice admixed with glutinous millet, millet, barley and red bean), sweet rice dish, laver- or aster-wrapped *ogokbap*, and herb salad.

With a wish and hope for good luck, a bumper harvest and a large catch of fish in the coming year, Korean people used to spend the Full-Moon Festival cheerfully and pleasantly, playing interesting folk games and holding colourful functions.

As a grand folk fete day early in the New Year, the lunar full-moon festival would encourage the people with great hope, remaining as a beautiful and delightful memory for long.

Rim Ok

Kite-flying.



Mt. Myohyang (3)



On the Manphok Rock.

Manphok Ravine

THE MANPHOK RAVINE IS A FAMOUS place for a succession of large and small waterfalls. Manphok means ten thousand waterfalls. It has lots of waterfalls of various shapes—Sogok (prelude) Falls that is said to announce the beginning of the unrivalled scenery of this ravine, Murung Falls, Unson Falls, Yuson Falls, Unjong Falls, Pison Falls, Kuchung Falls and Unha Falls—and many noted pools including Phaldam (Eight Pools). And there are famous rocks with a fine view like Manphok Rock, Jangsu Rock, Pison Rock and Tangun Rock going well with the surrounding scenery.

Sogok Falls announces the beginning of the

“symphony” played by the waterfalls in the ravine. It is not so large, but it is very impressive as it is the first attraction in the valley. On both sides of the falls are thick groves of pine trees, and the water cascades down over the rock face before falling down to the shelf. At the bottom of the falls is a small pool of blue water.

Murung Falls is one of the most magnificent and beautiful falls in Mt. Myohyang. According to an old tale, eight brothers used to rest after collecting firewood: the waterfall afforded such a picturesque scene that they considered it equalled the legendary Utopia where peach flowers were always in full bloom. Hence, the brothers named this place Murung (Utopia) Falls. The water rushes down over a

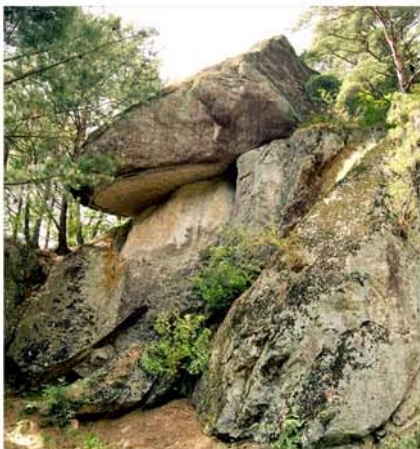


Murung Falls.

- ▶ horseback-shaped steep rock face before falling down a nearly 27-metre high cliff, making earth-shaking roars. After crossing the rock shelf, it runs against the hollowed-out stone, makes a big half-circle and then slides down some 50 metres before falling down to a big blue hollowed pool.

Yuson Falls is one of the great and famous waterfalls in the Manphok Ravine. The name originated from an old tale that fairies would come down there from Heaven for merriment. It is about 60 metres long. The water cascades sheer down or slides down quickly over the rock. At the bottom of the falls is a pool called Phaldam and at the top of it

Ryong (dragon) Rock.



hangs the Yuson Bridge, 30 metres long, where you can have a view of the beautiful ravine. The bridge, which looks like the heavenly Ojak Bridge, crosses between dangerous precipices.

Pison Falls, a typical vertical falls among the numerous waterfalls in the mountain, is well known for its strange and beautiful appearance. The name originated from a legendary tale that fairies would ascend to Heaven by the rainbow made by the waterfall after having a good time in the ravine. The water falls down in two currents from the top 46 metres high. The left current flows around the rock and breaks down to the pool resembling countless silk threads, and the right one slides down some way over the rock and then flies down violently to a rock shelf, raising sprays. Beside the falls is Pison Rock with a fine view and on the left shelf of the rock is the gable-roofed Pison Pavilion.

Tangun Rock is famous for its beautiful view from olden times. When you climb up there, you can have a magnificent view of the Manphok Ravine with many waterfalls, Hyangsanchon Valley and a boundless mountain range stretching to the south. It is associated with a legendary tale that Tangun who would later become King of Ancient Joseon climbed up there to have archery training every day.

If you go up a ridge from Tangun Rock, you will come to Unha Falls, a tilted waterfall which is one of the most magnificent and greatest waterfalls in Mt. Myohyang, and Hyangno Peak, 1 599 metres high. The peak is covered with aromatic trees and it looks like an incense burner, hence the name Hyangno. The trees like *Sabina sargentii*, *Thuja koraiensis* and *pinus pumila* lie prone on the ground to form a green carpet. And there grow blue berries and rhododendrons which are peculiar to alpine regions.

In the east of Hyangno Peak is a line of mountain peaks like the Chonthae and the Sokka.

Mun Il Jin

The road to Ssang (couple) Rock.



Cultivation and Use of Insam



THE NAME OF INSAM originated from its shape which resembles a human body. Those growing in the mountain are called *sansam* and the cultivated ones *insam*.

Korean people cultivated insam from olden times: In the Koguryo dynasty (277 BC–AD 668), they began to cultivate insam in the 1st century BC by planting *sansam* seeds under trees. And in the Koryo dynasty (918–1392), they started insam cultivation in the field. Later a cultivating method was established, giving rise to special insam farming in the late 17th century.

As insam from the Koryo dynasty was exported to foreign countries and well known, it was called as “Koryo insam,” especially “Kaesong Koryo insam,” because it was mostly cultivated in the Kaesong area.

Insam was widely known as an excellent medicinal material from long ago and used as the best tonic. It has good effects in strengthening restorative and immune functions, stimulating the central nervous system, improving the hematogenous function and the digestion and absorption of foods. It also has nice effects on metabo-



An insam plot.

lism by accelerating biosynthesis of protein and aliphatic acid, cutting the blood-sugar level and accelerating the bile secretion.

For those effects, it is used as a tonic for cases of debility, convalescence, physical and mental fatigues and after an illness. It is also used for the treatment of anorexia, digestive disorder, diarrhea, chronic gastritis, a sense of collapse, diabetes, palpitation, insomnia, hypotension, sexual malfunction, anemia and hepatitis. In addition, it is good for treating cancer, improving cerebration, retarding the aging process and making the skin fair and smooth.

In particular, Kaesong Koryo insam is well known to the world for its special virtue in treatment of cancers and diabetes. It has singular properties in shape, taste and aroma: Its main root is long with some lateral roots; it is solid, tastes a little bitterish and yet sweetish and has a special flavour. These characteristics of

Kaesong Koryo insam are ascribed to the method of cultivation, and more importantly, to the climate and natural features of the Kaesong area.

Kaesong Koryo insam has a long processing history. In Korea they processed insam by a manual method from olden times and then by an industrial method from the late 18th century. At the foot of Mt. Songak in Kaesong, there is a site where people used to have a kind of ceremony before they began the job of processing.

Now the Kaesong Insam Processing Factory affiliated with the Korea Insam Trading Company is producing lots of tonics—Kaesong Koryo *Hongsam*, *Kyongokko* and Kaesong Koryo Insam Tonic for Ladies, etc.—and various teas like Kaesong Koryo Insam Tea and other foodstuffs.

Kaesong Koryo insam and its processed goods are in ever growing demand for its medicinal efficacy.

Rim Sang Jun

Historical Relics and Remains Newly Unearthed

LAST YEAR, HISTORICAL sites and remains dating back to the primitive and ancient times were unearthed in Ungsang-dong, Sonbong District, Rason City.

Researchers from the Archaeology Institute of the Academy of Social Sciences and the national heritage preservation agency of Rason discovered a primitive site shaded by rocks, two dolmens and a dwelling site of the ancient age and more than 1 000 pieces of relics.

The rock-shaded site covered by a roof of strange-shaped rocks is situated on a sunny slope by the sea where fragments of earthenware were found, an evident sign of dwelling by primitive men. Shaped like the eaves of a roof or the peak of a cap, which can keep out the rain or snow, it is three metres high and covers an area of 80 square metres, the first of its kind in the northern part of the country.

Two dolmens have been found in the Ungsang relics, one a Sok-

chonsan-type dolmen and the other an Odok-type dolmen. The Sokchonsan-type dolmen has a pit for the burial chamber which is 120 cm long, 84 cm wide and 60 cm deep, covered with a flat stone 302 cm long, 228 cm wide and 62 cm thick. The Odok-type dolmen consists of two 100-cm tall stones covered by a flat roofing stone, 180 cm long, 140 cm wide and 60 cm thick. The artifacts discovered in the dolmens include semi-processed stone implements.

Dolmens of the Sokchonsan type have so far been believed to be found only in the Taedong River basin around Pyongyang and those of the Odok type have never been found in the areas north of Orang County, North Hamgyong Province. The discovery of dolmens of these types in the Rason area has now made it possible scientifically to explicate the influence of the ancient civilization of the Pyongyang area over the Rason area and the territory of Tangun's Korea, the first state of the nation, in its heyday.

The ancient dwelling site is drawing the attention of the academic world for its new unique style.

Generally, the previously unearthed dwelling sites show that the ground was dug down to a certain depth, pillars were set up along the edges of walls and then the place was covered with a roof. But the newly discovered site proves that pillars were erected and rafters were placed with rocks before putting the roof on them. Its structure, first to be discovered, is very strong and sturdy.

In the dwelling site fragments of dozens of pottery and a cooking place have been found.

The recent finds are of weighty significance in studying the great role played by Korea's primitive and ancient cultures in Northeast Asia as well as the features of the ancient culture in northeastern Korea which had remained as a blank in the academic circles.

Kim Chol Hyon

The site of an ancient dwelling.



Ancient dolmens.



Fundamental Idea for Unity and Reunification

MORE THAN 70 YEARS have passed since Korea was divided into the north and the south. The source of hope of the Korean people for one Korea has been the June 15 North-South Joint Declaration.

The keynote of the declaration is “by our nation itself” which is the fundamental idea for unity and reunification. It is a principled stand of the Democratic People’s Republic of Korea to achieve both national unity and reunification with the efforts of the nation itself. As a lyric puts it, a stalk of bush clover is easy to break, but not that of a gigantic tree. Likewise, when the Korean people unite under the banner of “by our nation itself” there will be nothing impossible for the nation to do. If all the Koreans in the north, south and abroad join hands as members of the homogeneous nation and maintain the stand of “by our nation itself” there would be no justification for foreign interference into the matter of Korean reunification, and then the matter would be able to be settled in compliance with the nation’s desire with the national interest at the centre of all considerations.

In retrospect, the north and south top leaders met in Pyongyang, capital of the DPRK, in 2000 for the first time since national division, and adopted the June 15 North-South Joint Declaration. Later, as measures for implementation of the declaration, different channels of negotiation were opened, including the minister-level talks, to solve matters of substantial importance in the spirit of faith and cooperation. This led to the finding of formulas for reconciliation and unity, the

opening of the way of cooperation and exchange and the taking of measures for détente.

With a big stride made in the implementation of the declaration, a bright prospect took shape and the time was ushered in for reconciliation and cooperation in the inter-Korean relationship which had been overwhelmed with confrontation, tension and distrust alone for much more than half a century. The wall of misunderstanding and distrust collapsed, severed railways and roads were reconnected, and air and sea routes were opened—all developments were wonderful.

Cooperation and exchange projects were promoted in a big way for common development and prosperity of the nation, bringing huge pleasure to every heart of the nation. In the Kaesong Industrial Park, for instance, the south Korean enterprises enjoyed great benefits in terms of ground rent, land use tax and all other kinds of taxes which were almost next to nothing.

Suffering from the present situation in which the inter-Korean relations are in an acute state due to the south Korean authorities’ confrontation policy, the Korean people are keenly realizing again the need to unite under the banner of “by our nation itself” instead of seeking mutual confrontation. When the north and the south stand together under the banner, it would just mean one Korea.

It was because of the Americans’ interest in aggression that the Korean nation was split into two parts. Their policy of leaving the nation divided until they occupy the whole of Korea will never change in any case. What would

be the result of letting the aggressive foreign force to make interference into the matter of the Korean nation is quite obvious to everybody.

The driving force of Korean reunification is the Korean nation itself. Refusing to maintain the stand of “by our nation itself” and seeking “international cooperation” for confrontation with the other side while relying on foreign forces will lead to nowhere in building inter-Korean confidence, improving mutual relations and achieving national reunification.

All the countrymen remember the ecstatic chants of “national reunification” and “by our nation itself” both the north and the south raised together in the May Day Stadium in Pyongyang on the occasion of a gathering held at the proposal of the north in October 2015 when the situation was so acute. Although the north-south workers’ football game which had been scheduled to take place in Seoul in 2016 on the occasion of the day of national liberation (August 15, 1945) was aborted, all the Korean people feel anew that reunification will come surely only if the north and the south are loyal to the idea of “by our nation itself.”

Although the anti-reunification forces are continuing with their challenges and there are ordeals and obstacles in the way of the national reunification movement due to the foreign forces that do not want Korea to be reunified, the north and the south will be able to achieve whatever they want if only they are united in the spirit of “by our nation itself”—this is the conclusion of history.

Mun Pong Hyok

The US Should Think in Reasonable Way

ANTAGONISM HAS BEEN the invariable keynote of the American policy towards the Democratic People's Republic of Korea. The scheme to stifle the DPRK is going from bad to worse.

With the beginning of the current century the Bush administration labelled the country as "rogue state" and "axis of evil" and applied military pressure and high-intensity sanctions. The Obama administration, too, constantly intensified the military pressure and economic sanctions in accord with the policy of "strategic patience," turning the screw tighter. It deployed nuclear-powered aircraft carriers and other strategic nuclear weapons in and around south Korea, driving the situation in the Korean peninsula to the brink of a nuclear war while making a vicious "human rights" racket against the DPRK to mislead the international community.

The keynote and target of the successive US administrations' policy towards the DPRK were to isolate the country politically, stifle it economically and put pressure militarily so as to remove it from the earth. In an attempt to realize its goal the US, stigmatizing Korea's lawful right to launch of artificial earth satellites as "threat to peace and security," is imposing sanctions by instigating the UNSC. The DPRK, however, is unremittently advancing along the road it chose without any vacillation, making the US's anti-DPRK policy sub-

jected to criticism and ridicule at home as well as in the international community.

Recently an acknowledged European expert in Korean studies said that there have been miracles in Korea from the mid-1990s up to now. One of them is that it has emerged in the international arena as a state representing socialism in the true sense of the word, and the other is that its people are pushing ahead with the building of a thriving nation after they survived the abyss of death. American experts in Korean matters denounced that when Bush's high-handedness and arbitrariness pushed the DPRK to possess nukes, Obama's policy made the country improve its rocket technology and manufacture miniaturized and diversified nuclear warheads, thus exposing the US to a greater threat.

The US's repeated failure in the battle against the DPRK shows that its hostile policy is a futile one. In confrontation with the DPRK spanning scores of years the White House mobilized all kinds of means and methods as well as war threats. Moreover, it went so far as to make nuclear blackmail. But all those moves could not bring the country into submission or weaken it. On the contrary, it has grown into a powerful state which can make a lethal threat to America.

Actually, the DPRK's tough stand to cope with any kind of warfare wanted by the US and its

ever-developing military capabilities are posing as a significant threat to America. The history of confrontation between the DPRK and the US and the present reality whereby Korea's strategic position has changed demand that Washington see Korea correctly and make a radical change in its policy. No one can foresee what would become of the US's dogged pursuance of the hostile policy towards the DPRK. One thing is obvious: such a policy requiring a colossal sum of fund will aggravate the crisis in America.

Apprehensions about the policy are growing around the world as well as in the US, and a lot of voices demand the White House change its policy. Perry, former US Secretary of Defense and other former high-profile officials of the US administration and Korean experts assert that it is necessary for the new administration to map out "a new diplomatic plan," that it should halt US-south Korea joint military exercises and replace the armistice agreement with a peace agreement and that it should have dialogue and negotiation with Pyongyang.

Considering different ideologies and systems existing together around the world, it is absurd for the US to be hostile towards the DPRK for its different ideology and system. The US should have a proper view of the DPRK, think reasonably and behave itself.

Kim Hyong Chol

Imperialist Japan's Scheme for A-bomb Development and Massacre of Koreans (3)

IMPERIALIST JAPAN treated the "Zinc Plant" with a special favour in the supply of electricity, too. The Pongung, Ryonghung and Hungnam factories in the Hungnam district had electricity through solid wire, but the Zinc Plant and the Powder Mill got electricity through double power lines from the Jangjintang and Hochonggang power stations.

There was a greatest water electrolysis plant in the Hungnam district which was the largest of its kind in the world at the time. The following data show how much heavy water the plant produced for A-bomb development. The Japanese book *History of Power Project in Korea* pointed out: "Heavy water was studied in Hungnam during the war, and the water electrolysis plant there, capable of turning out 40 kg of heavy water every day, could produce 15 tons a year."

Japan's A-bomb development in Hungnam was stepped up in 1944. As the tide was turning against them in the war with China and in the Pacific war that were dragging on, the Japanese imperialists were desperate to develop nuclear weapons. They were now put on the defensive as Leyte and Saipan islands in the Pacific were captured by the American forces. This made them, including the Imperial headquarters, high commands of the army and navy, MPs, mass media and even children, anxious for "a new weapon." "A bomb as small as a match packet will wipe out New York in a moment" was a favourite phrase uttered by Japanese militarists by way of publicity. As

Yoji Ito, head of the technical research institute of Japanese navy, admitted, the Japanese military hoped to have atomic bombs not for defence but for offensive.

On July 31, 1944, Enami, appointed chief of the "Japanese Nitrogen" in succession to Noguchi, and Commander Saito, head of munitions section No. 2 of the Japanese naval ministry, came to Hungnam by air and gave instructions to start the "NZ Project." It was notable that it was just after the day when the decision "War Research 3712-Sun Research" had been adopted. This makes clear that Hungnam was the base for carrying out the secret nuclear project of Japan.

Now, there arose the "NZ whirlwind" carrying off all human and natural resources in the Hungnam district. Research works and construction were carried on simultaneously, and it was decided to dismantle the electrolysis installations of the Hungnam Fertilizer Factory, Pongung Factory and Metal Factory for use in the project.

With the advent of 1945 the Japanese imperialists began to move the main facilities for A-bomb development of its army and navy to the Korean peninsula as US air raids on their land grew more intense. According to the OSS paper of Feb 9, 1945, the Japanese Imperial headquarters issued an emergency order to put underground the industrial equipment beyond marine transportation and carry all the rest out of Japan to Korea to evade US air raid. Accordingly, the "No. 2 Research" group of the army

moved to Taejon, south Korea, and built a nuclear plant under the false name of an aircraft piston factory while most of the "Sun Research" group moved to Hungnam and Chongjin. Early in 1945 the facilities of the Japan Iron Works in Osaka were moved to Chongjin. At the time, the anti-Japanese underground revolutionary organizations under the Association for the Restoration of the Fatherland in the Hungnam area went into brave actions against the nuclear project of the Japanese rogues under the banner of all-people resistance held up by Commander Kim Il Sung. They made the construction of the major structure rejected by doing concrete placing at random and all the electrodes of various specifications they produced for use in nuclear tests were off grade. In September 1943 they interrupted production of aviation fuel for eight months by exploding the butanol system at the Pongung-Ryonghung Fuel Factory.

Wi In Chan, a member of the anti-Japanese underground organization in the Hungnam area at the time, says in retrospect, "From the spring of 1944, Japanese imperialists' lookout became more strict. One production building of the Pongung-Ryonghung Fuel Factory was placed under wire and guarded by a checkpoint and even army dogs. As for Korean workers only skilled workers were allowed to enter it and day-to-day engagement was restricted to the utmost. According to the information obtained from the underground activists in the factory, ►

▶ the Japanese imperialists were attempting to produce a special weapon called 'V-2' with the technical data transferred from fascist Germany. We immediately called an emergency meeting of the Hungnam District Party Committee. One day in the early spring of 1945, the Japanese scoundrels of the Pongung-Ryonghung Fuel Factory drove all the Korean workers out of the factory on the pretext of a test. Taking advantage of this occasion, the underground activists secretly stopped one of the valves of the alcohol production system, so that the production system exploded by its own pressure in the course of the test with a deafening sound and a pillar of flames shooting up. As a result, engineers for 'V-2' rocket production were killed and the alcohol production system was blown up as a whole."

Even in such a situation, the Japanese imperialists desperately tried to finish up the atomic weapon in the Korean peninsula in order to delay their defeat and reverse the war situation. On July 21, 1945, a scientific conference for congratulating Japan's A-bomb development was held with the participation of Japanese eminent physicians and personnel concerned. At the conference, Arakatsu announced that all the theories and laboratory works for A-bomb development were completed, but that it remained a problem how to efficiently establish the A-bomb manufacturing process and its production system. He added that an A-bomb production system in the Hungnam area had already been established. Some time later, on August 6, 1945, however, an A-bomb was dropped on Hiroshima by America, ravaging the city and killing and wounding more than 100 000 inhabitants. Nevertheless, the Imperial headquarters of Japan desperately tried to recover themselves by

fighting back with the atomic weapons which they were developing. After Hiroshima A-bomb strike, Nishina was summoned to the General Staff Office of the Army, where he was asked by its vice chief Torajiro Kawabe if it would be possible to manufacture A-bomb in six months. To this, he answered, "It's impossible even in six years, not in six months." On August 9, 1945, another A-bomb was dropped on Nagasaki causing a large number of casualties. However, the Japanese Imperial headquarters was still unwilling to surrender. But the wild design of Japan to complete A-bomb production by delaying the war ended in a failure.

Following Commander Kim Il Sung's order to make a full-scale offensive, the Korean People's Revolutionary Army units advanced like surging waves while the Soviet Army entered the war and broke through the border fortresses of Japan. So the one-million-strong Japanese Kwantung Army and its occupation forces in Korea were defeated in an instant and put to rout.

In the hell of ruin Japan made frantic efforts to survive. It destroyed all secret projects in Hungnam while carrying out an A-bomb test. The test took place in the sea off the coast of Hungnam at dawn of August 12, 1945.

On October 3, 1946 the American newspaper *Atlanta Constitution* carried a shocking story written by David, a journalist and member of the criminal investigation group of US 24th army division that occupied south Korea soon after liberation from the Japanese military rule. It was a report based on the deposition of a Japanese prisoner.

It says: "Three days before the end of the war, Japan succeeded in the test of an A-bomb which they had developed. A few hours before the Soviet Army's advance troops rushed into Korea, Japan

destroyed unfinished A-bomb, secret documents and facilities of A-bomb development at the base of A-bomb projects in Korea. I obtained the information from a Japanese army officer who said he had performed counter-intelligence duties at the Hungnam project before Japan's defeat. According to him, there was a cave in a mountain near Hungnam. There, people worked day and night carrying on the final construction of Japan's so-called Genzai Bomb. This was August 10, 1945 by Japanese time. That day, at deaf of night, Japanese motor transport unit left the entrance of the cave and passed the watchful checkpoint. It went through the valley and passed a silent village. Before dawn Japanese scientists and engineers loaded the Genzai Bomb on board a ship at Hungnam. On the coast near the East Korea Bay, frantic preparations were going ahead. Through the day and night old ships and fishing boats moved into the anchorage. At daybreak of August 12, a remote-controlled ship left the wharf and passed through the crowded anchorage with the whirring sound of the engine only to strike a reef at the mouth of the bay. The passenger on the ship was the Genzai Bomb. There were observers 20 miles away from the spot. The eastern sky was dawning, and the moment the sun showed above the horizon, a fireball 1 000 yard across shot up and flooded the whole place with light, throwing a white-glowing light on the faces of observers with their dark glasses on. A mass of dazzling white cloud rose into the sky and a large mushroom-like cloud formed in the stratosphere. The observers immediately withdrew to Hungnam and destroyed machines and the unfinished Genzai Bomb before the arrival of the Soviet advance troops. About 40 000 Japanese took part in the A-bomb project in Korea. Of them, 25 000 ▶

► were experienced scientists and engineers. They knew nothing but their own particular subjects of study. About 400 experts worked in the cave and they formed the core of the project. One of them was in charge of the whole project and other six eminent scientists were responsible for six processes of A-bomb manufacture. Later, they were all taken to Soviet Russia as prisoners of war.”

August 12, 1945, when the A-bomb test was carried out, was a high-strung day for Japan when a council in the Imperial presence was held to decide on acceptance or rejection of the Potsdam Declaration. Meanwhile, the Japanese imperialists decided to blow up all facilities, equipment and materials used in the nuclear project in the Hungnam area while concealing the technical documents in order to hide their criminal acts.

Shoji Kamada’s book *Japanese Troubles in North Korea* has such passage: On the morning of August 15 the Japanese Government-General in Korea gave orders to Hungnam Factory to prepare for blasting parts of the nuclear project if they were unable to transport them. On the morning of August 16, Navy Inspector Captain Hasegawa called Shiraishi and Oishi of the Japan Nitrogen Factory to his office and ordered them to destroy the NZ plant, and then he went out with his men to the Ryonghung NZ Plant and demolished it. As for the NZ metal plant (zinc plant), Sub-Lieutenant Nakao under Captain Hasegawa asked its director Wakabayashi to help him blast the plant. Wakabayashi rang up Takahashi of the plant and ordered him to help the people from the navy in wrecking the plant, scrapping the products and retrieving platinum metals. So, the metal plant was completely dismantled.

Moreover, the Japanese rogues threw 2 000 tons of monazite ores piled up on the Hungnam wharf into the sea. □

Renowned Physician of Koryo

KOREA HAD MANY well-known physicians from of old, and Sol Kyong Song (1237–1313) was one of them. He was a descendant of Sol Chong (late 7th century–early 8th century) who was a famous scholar in the period of the Three Kingdoms. As a talented literary man, Sol Chong not only directed his effort to the education of the rising generation but also further developed and systematized the notation for expressing Chinese characters used for their sound values to write Korean particles, endings and auxiliary verbs in order to facilitate the reading of Chinese texts. Thus he was called the “progenitor of academic learning” at that time.

Sol Kyong Song also made a great contribution to the medical development of his country by virtue of his high medical art. He learned the medical science from his tender age, and put much emphasis on the treatment of diseases and the study of medicine throughout his life. He was well versed in the advanced clinical medicine of Koryo at the time and good at treatment of patients, thus he was widely known within and without.

In 1285, he was invited to

a neighbouring country. During his two-year stay there he completely cured its king of his disease which had been treated by physicians of many countries but to no avail. Marvelling at his excellent practice the king gave him a house and treasure and made sure that the gatekeepers allowed him to come in and out of the Royal Court freely. The king also got on close relationship with him, playing *paduk* with him unceremoniously. When Sol Kyong Song was going to return home, the king repeatedly asked him to remain in his country and become the royal doctor. Sol, however, declined the king’s request, returning back to Koryo at last. Later, he was invited to the neighbouring country several times, demonstrating his superb medical skill.

Though he enjoyed the favour of Koryo’s king, he didn’t seek to get special benefits. Rather, he put his heart and soul in treatment and medical study to the last moment of his life. He was one of the Two Physicians of Koryo along with Ri Sang Ro who was active in the latter half of the 12th century.

Kim Hyon Ju

Octagonal Five-storey Pagoda at Yongmyong Temple

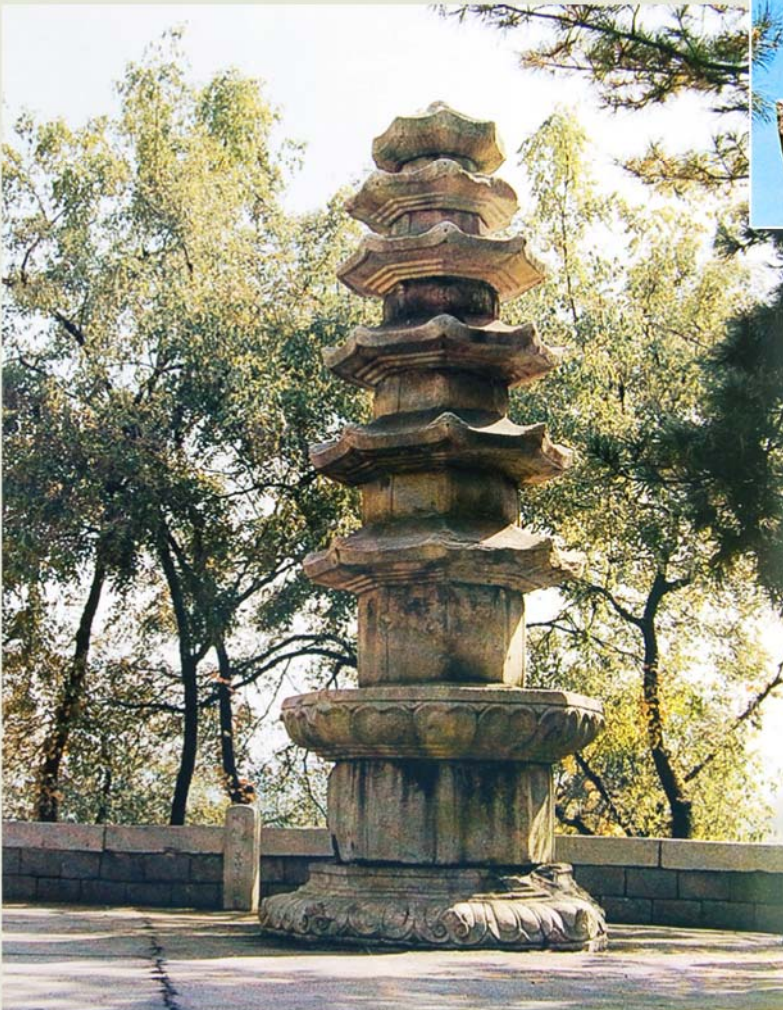
THE FIVE-STOREY STONE pagoda of the Yongmyong Temple in Central District, Pyongyang, was built in the mid-10th century during the Koryo dynasty, taking over Koguryo's polygonal-tower-building skills. It consists of a pedestal, an octagonal five-storey body and a roofing stone. It is 4.54 metres high.

The pedestal consists of the

base, body and head. Each side of the base has two concaves, and flower patterns are engraved on the upper ends of the surface. The body is slightly pot-bellied and its corners are angular. And the octagonal body stone has a decoration of angular pillars.

The lower and upper lines of the eaves of the

roofing stone are curved up and the ends of the eaves have holes where wind-bells were hung. The upper parts have flower decorations. The supports of the eaves



are in three tiers and lotus petals are embossed between the upper tiers of the supports and ends of the eaves. The sculptured decorations in the upper parts of the ends of the eaves and the carvings of lotus under the eaves are of rare artistic design.

Vertically, the pedestal and the first storey are wide and the upper storeys are gradually narrower, giving an impression of well-balanced symmetrical beauty. The Pyongyang area has many polygonal towers and this shows that the polygonal tower architecture of Koguryo has been handed down to Koryo.

Pak Myong Chol

