

# The Pyongyang Times

Democratic People's Republic of Korea

No. 45 (3 081) weekly <http://www.pyongyangtimes.com.kp> e-mail: [flph@star-co.net.kp](mailto:flph@star-co.net.kp) Sat, November 9, Juche 108(2019)

LEAD

## Work proves scientific accuracy of victory of socialism

Chairman Kim Jong Il published work *Socialism Is a Science* on November 1 1994.

When the work was released 25 years ago, the Korean people were experiencing unprecedented difficulties.

In the wake of the successive collapse of socialism in different countries the imperialists trumpeted the "end of socialism" and the international community was much apprehensive about the future of socialist Korea.

At this juncture, the Chairman made public the work to prove the absolute truthfulness and invincibility of socialism and declared the total failure of the anti-socialist strategy of hostile forces.

In the work, he said that the crumbling of socialism in various countries did not mean the failure of socialism as science but the bankruptcy of opportunism which had corrupted socialism and that although socialism was temporarily experiencing a heart-rending setback because of opportunism, it would surely be revived and win ultimate victory for its scientific accuracy and truth.

The work that was published at the time when there were heated debates over the socialist ideal itself and strong suspicions as to it served as a

beacon to progressive peoples who were groping for the path to socialism.

After analysing and reviewing the historical course of development of the socialist ideal and movement, the work clarified that genuine socialism, the most advantageous and viable socialism, is man-centred socialism, people-centred socialism.

It demonstrated that society based on individualism inevitably produces class antagonism and social inequality and is accompanied by exploitation and oppression, that independence for the people can be realized only in socialist society based on collectivism and that the transition of a society based on individualism to a society based on collectivism is an inevitable process of historical development.

This constitutes the formulation of a new socialist theory based on the Juche idea, a man-centred revolutionary ideology, by overcoming the limitations of the socialist theory based on the materialistic conception of history.

The work also indicated the intrinsic advantage of socialism of a Korean style.

According to the work, its intrinsic advantage is that it is based on the Juche idea.

As it explained that independence, creativity and consciousness form the essential qualities of man, the Juche idea established for the first time the man-centred view that man as a social being is the sole master of the world and the most precious and powerful being.

Starting from such a Juche-based viewpoint on man, Korean socialism makes sure that everything serves man while solving all problems by enhancing his creative role. Accordingly, the masses of the people lead a fulfilling and happy life as they assume the position of masters of everything and fulfil their duty and role as such.

The scientific accuracy of victory of socialism which was explained by the work has been substantiated by reality.

The Pyongyang Declaration which was dubbed a new action programme for the rebuilding of socialism was adopted the following year and more than 300 political parties around the world have signed the declaration over the past decades.

The Korean people will as ever advance along the road of socialism of Juche and surely achieve its victory.

By Ri Sung Ik PT

ANNIVERSARY

## Photo, film show marks DPRK-Cuba summit anniversary

A photo exhibition and film show took place at the Taedonggang Diplomatic Club in Pyongyang on Nov 4 to mark the first anniversary of the summit meeting between Supreme Leader Kim Jong Un and Cuban President Miguel Diaz-Canel Bermudez.

The event was attended by Ri Su Yong, member of the Political Bureau and vice-chairman of the Central Committee of the Workers' Party of Korea, Kim Sung Du, chairman of the Education Commission who is chairman of the Korean Committee for Solidarity with Cuba, So Ho Won, vice-chairman of the Korean Committee for Cultural Relations with Foreign Countries, officials of the Korean Committee for Solidarity with Cuba and other related units and Pyongyang citizens.

Jesus De Los Angeles Aise

Sotolongo, Cuban ambassador to the DPRK, and his embassy staff members were invited there.

Speakers at the event referred to the fact that the preceding leaders of the two countries had forged and cultivated the traditional friendly relationship between the DPRK and Cuba on the road of the joint struggle for the victorious advance of the cause of anti-imperialism and independence and the socialist cause.

They hoped that the event would be an important occasion for adding lustre to the undying exploits of the top leaders of the two countries and strengthening the bond of friendship between the Korean and Cuban peoples.

After looking round the photo exhibition, the participants saw a Korean documentary on the DPRK-Cuba summit meeting.

Compiled from KCNA



A photo and film show takes place at the Taedonggang Diplomatic Club to mark the first anniversary of the summit between Supreme Leader Kim Jong Un and Cuban President Miguel Diaz-Canel.

ECONOMY

## Industries register upward track

Researchers at the Mining Engineering Institute of the Academy of Coal Science developed a pneumatic motor-powered rotary puncher to be used in coal pits filled with gas and a pneumatic saw for cutting props and sent them to over ten coal mines.

The Sunchon Mining Engineering Institute developed a new blasting method to increase tunnelling speed by 1.2 times as compared to before and established a drill production process, the Kaecheon Coal Mine set up a hard alloy heat treatment process to increase the lifespan of drilling heads and the Hyongbong Coal Mine invented a wagon rectifier

protection device.

The Pyongyang Railway Bureau transported 130 000 tons of more coal for thermal power generation in October as against the same period of last year.

The West Pyongyang Locomotive Corps overfulfilled its transport plan of coal for the Pyongyang Thermal Power Complex and the East Pyongyang Thermal Power Station.

The Pukchang railway branch bureau increased the operation rate of locomotives, improved the capacity of mending freight cars and scrupulously arranged the provision of freight cars and the loading of coal for thermal power stations, thereby

ensuring a 1.3-time increase in transportation as compared to the same period of last year.

The Chonnaeri Cement Factory installed a new type of cyclone, applied over 10 technical innovation plans and finished the overhaul of the kiln in a short time.

The Pyongyang Cosmetics Factory turned out new functional cosmetics for skin protection, makeup, hairdressing and cleansing in the course of deepening analysis of domestic and international trends of cosmetics development.

Recently, six kinds of its Unhasu-brand cosmetics including cream, milks and lotion made with rose and mung beans received quality certifications from the Eurasian Economic Union, an influential economic body in Asia and Europe.

The factory has developed new types of packs for different skin parts and curative creams

by using the essence of natural Koryo medicinal materials abundant in the country, while raising the ratio of locally available materials and additives in the production of various kinds of cleansing and whitening cosmetics.

The shoe-making industry sector brought out hundreds of kinds of new products.

The Wonsan Leather Shoes Factory developed over 100 kinds of leather shoes that suit the taste and liking of locals by relying on domestic materials and equipment and raised the quality of Maebongsan-brand leather shoes a level higher by developing an automatic sole gumming machine for saving materials and an automatic pattern sewing machine.

The Ryuwon Footwear Factory introduced an adhesive solvent and other agents into production and established a moccasins production line which relies on an outer rim knitting machine.

The Hungnam Leather Shoes Factory made light and elastic soles by introducing the vinyl chloride foaming technology based on carbon dioxide and making an air pocket rhombic press, the Pyongyang Leather Shoes Factory produced good-looking and convenient leather shoes by introducing the iron core-free shoemaking method, and the Sinuiju Footwear Factory developed a shoes desulfurizing technology.

By Kim Il Jin PT



## STATEMENT

# FM spokesman refers to US report as politically motivated

It is really absurd and just like a guilty party filing the suit first that the US, the hotbed and ringleader of terrorism, is styling itself a “judge of terrorism”, a DPRK Foreign Ministry spokesman told KCNA on Tuesday.

Such remarks came after the US Department of State found fault with the DPRK again in the “country reports on terrorism for 2018” released on Nov 1.

This proves once again that

the US, preoccupied with inveterate prejudice against the DPRK, is invariably pursuing its policy hostile towards the latter, he said.

Denouncing the reports replete with all sorts of falsity and fabrication as an act of grave politically-motivated provocation against the DPRK, he said it is the consistent stand of the DPRK to oppose all forms of terrorism and any support for it.

The US persistently tries to

brand the DPRK as a “state sponsor of terrorism” at a sensitive time when the DPRK-US dialogue has reached a deadlock, he said. “It is an insult to and an act of perfidy against the DPRK, its dialogue partner.”

He warned that the window of bilateral dialogue is getting narrower due to such approach of the US.

Compiled from KCNA

## BIOSPHERE

# Mt Paektu area boasts unique geological features

Mt Paektu is a symbol of Korea and is widely known as a celebrated mountain of the world.

Lots of scholars have explored the mountain to discover a lot about its formation and geological structure, fauna and flora.

According to information released by geologists of the State Academy of Sciences, the mountain is a composite volcano that erupted through different stages between the Jurassic period of the Mesozoic era and the Quaternary period of the Cenozoic era.

On top of the mountain there is Lake Chon surrounded by high peaks, and the surrounding mountains preserve eruptive sections that were formed in the course of several rounds of volcanic eruptions.

In the crater there are lava towers, hot springs, the carbonized and buried trees that are of great significance in studying the age of grand millennial eruption and the curious rocks and volcanic bombs that were formed through eruptions.

Mt Paektu has also dozens of unique geological spectacles including Janggum Peak volcanic body, Lake Chon crater, Rimyongsu Falls, Paektu hot spring, Lake Samji and Chongun Rocks.

Lake Chon, 2 190.15 metres above sea level, was formed as the volcanic crater was filled with snow and rain water.

It is noted worldwide as one of the volcanic lakes with considerable water volume in consideration of such a height.

Survey results show that it is 9.16 square kilometres in area, 14.4 kilometres in circumference, 213.3 metres in average depth, 384 metres in maximum depth and over 1.9 billion cubic metres in water volume.

The Paektu hot spring is a

volcanic spa formed by volcanic gas and underground water and the highest temperature is about 73°C.

Lake Samji consists of three ponds which were formed after a river flowing north near the present lake was blocked by lava from the Paektu and neighbouring volcanos that erupted about a million years ago.

As all the geological spectacles of the Mt Paektu area also constitute unique geological relics, they are of value not only as sights to behold but as a base for geological study and sci-tech diffusion.

According to experts, the Paektu volcano is helpful for people to study volcanic activities from different aspects and acquire knowledge of volcanoes.

It is another feature of the Mt Paektu area that diverse animal and plant resources peculiar to it are distributed.

This area serves as a textbook for the study of volcano and an open-air volcano museum.

Experts admit that just the tip of the iceberg has been known as to the geological phenomena of the area.

By Jong Tang Song PT



Rimyongsu Falls.



Lake Chon on top of Mt Paektu.

## INSPECTION

# Senior officials survey various sectors



Choe Ryong Hae (third from right), president of the Presidium of the DPRK Supreme People's Assembly, looks round the Yangdok County Hot Spring Resort under construction.

Choe Ryong Hae, member of the Presidium of the Political Bureau of the Central Committee of the Workers' Party of Korea, first vice-chairman of the State Affairs Commission of the DPRK and president of the Presidium of the Supreme People's Assembly, inspected the Yangdok County Hot Spring Resort under construction.

Making the rounds of the complex for spa medical treatment and sports, cultural and recreational activities, he underscored the need to concentrate on ensuring the quality of the finishing work, step up and complete the construction of a railway line including Onjong Railway Station and plant lots of trees of good species around the railway station building and along the railway line.

After inspecting the hot spring service facilities in the county town, he said they should be furnished perfectly by focusing on providing the people with full convenience and careful preparations made for their operation.

Pak Pong Ju, member of the Presidium of the Political Bureau of the WPK Central Committee, vice-chairman of the State Affairs Commission

of the DPRK and vice-chairman of the WPK Central Committee, visited the electric power and coal industry sectors of South Phyongan Province.

Looking round different places of the Pukchang Thermal Power Complex, he gave a pep-talk to the electric power producers.

At the coal-mining machine factories and coal mines under the Tukjang and Tokchon area coal-mining complexes he pointed to the need to make more high-performance equipment, improve the supply service for coal miners and make full preparations for winter production.

Premier Kim Jae Ryong, who is also member of the Political Bureau of the WPK Central Committee and member of the DPRK State Affairs Commission, inspected several units in the agricultural field in North and South Hwanghae and South Phyongan provinces and Nampho City.

At the Obong Cooperative Farm in Paechon County, Phungchon Cooperative Farm in Yonan County, Migok Cooperative Farm in Sariwon City, Jasan Cooperative Farm in Phyongsong City and Sokchi Cooperative Farm in Onchon County, he emphasized the need to make full preparations for next year's farming, explore underground water resources, apply a correct field responsibility system within the framework of the sub-workteam management system and increase the proportion of mechanization in farm work on the basis of the experience gained this year by employing advanced farming methods.

He also looked round the construction site of the second-stage waterway in South Hwanghae Province to acquaint himself with the supply of building materials including cement and the progress of the overall project.

By Pang Un Ju PT





# Nation looks toward digital economy, IT achievements put on show

## Achievements in informatization highlighted

The national exhibition of achievements in informatization-2019 took place on an unprecedentedly large scale at Pyongyang Indoor Stadium in Pyongyang between Nov 1 and 7.

The theme for this year's exhibition was "digital economy and enthusiasm for informatization".

On display at the exhibition were more than 1 600 pieces of achievements in informatization and development of information technology and IT products made in the course of it. It drew hundreds of units including commissions, ministries, national agencies, scientific research and educational institutions, other institutions, enterprises, model units in informatization and information industry units.

The exhibits were on show in the form of real things, models, simulations, multimedia presentations and introductory illustrations and the display booths were open so that visitors could see and use directly to understand and compare what they saw, share knowledge and make order contracts for the exhibits on display in the main hall and those in the corridor of Pyongyang Indoor Stadium.

As a comprehensive animation monitoring system was established in the exhibition hall, the progress of the exhibition and analytical data on the visitors were displayed in real time on the large screens set up in several places.

Most attractive among the exhibits were the national integrated power management system, the general information systems in the agricultural and public health sectors, the meteorological information service system and other advanced IT achievements and products, education information support systems and education support programs made during the implementation of the five-year strategy for national economic development.

The electric power information institute under the Ministry of Electric Power Industry presented a new family electric power supply contract system and a national integrated power management system to which the compound power control system of the Orangchon Power Station is added. As they make it possible to sign power supply contract at

any place through the national computer network and mobile communications network and ensure high water level and high efficiency in hydropower stations, they support the optimization and informatization of power generation, supply and consumption.

Also seen there were the Pulgunbyol operating system, integrated search system and Korean language sound recognition program, a door control system using car licence number recognition technology, machine translation and character recognition programs, VR experience ground using sound and image recognition and front image visual angle support system.

School education level appraisal system, programming capacity evaluation system, multifunctional distance lecture system and practical super-speed reading training support program were very popular among officials in the education field, teachers and schoolchildren as they are very helpful in improving the overall education.

The exhibition also featured contests, presentations, technology exchange and services in new and various forms. Quality inspection was performed at the exhibition hall to provide favourable environment and conditions for turning excellent IT research hits into products.

The exhibition examined scientific and technological contents and economic effectiveness of the exhibits and selected top ten model informatization units, top ten IT businesses and top ten IT products.

In a word, the event highlighted the growing trend of local businesses towards digital economy.

By Jong Hwa Sun PT



The national exhibition of achievements in informatization-2019 is held at Pyongyang Indoor Stadium.

## Exhibition provides companies with platform for exchange

During the exhibition, there were diverse forms of contests and presentation including AI program competition, programming contest and football match of robots.

The AI program competition included contests of face, audio, letter, fingerprint and car licence number recognition and machine translation programs (EK-KE, CK-KC). In the programming contest, contestants competed to see who quickly develops more programs that require extensive search and calculation.

According to Ri Kum Sun, a staffer of the National IT Administration, the car licence number recognition program contest is the first of its kind in the country.

The contests brought together different education institutions, scientific research units and software developers including Kim Il Sung University, Kim Chaek University of Technology and the State Academy of Sciences.

And there was a football match of robots in which each team competed with five robots.

An official of the game sponsor organization said that robot football is winning growing popularity as a comprehensive intelligence control game that is played for dominance in intelligent robot technology and intelligence control technology as well as in artificial intelligence of relevant countries at present, since robots have such functions as intelligent decision-making, sensing, movement programme and movement control.

It drew robot football teams of Kim Il Sung University, Kim Hyong Jik University of Education and Pyongyang University of Publishing and Printing Engineering.

A presentation was given on new technologies and products



PHOTOS BY RYU KWANG HYOK / THE PYONGYANG TIMES

### The director of the Kwangmyong Ragwon Electronic Products Development Company explains its new smart TV.

and valuable experience, ideas and solutions conducive to the informatization of the country and the development of the information industry, especially AI, telematics and information device and security.

Among them was Choe Sun Yong, a 77-year-old candidate academician, professor and PhD of Kim Chaek University of Technology who made presentation entitled "On the front face estimation integrated system in different postures based on the position database".

Well over a hundred best IT products were exhibited in a concentrated way.

They included a software dissemination and protection system, homemade spectrum analyser, face scanner that can prevent deceptive attack based on photo, video and smartphone, multifunctional telephone with the same function as mobile phone, Ullim network switchboard and SIM card, and a new type of smart TV.

By Chae Hyang Ok PT

### Top 10 IT products and hits

- Pulgunbyol 4.0.5 user system, Ullim SIM card, super high resolution black-and-white picture colouring system, computer vaccine program Chambit, Orangchon Power Station integrated production system,
- spectrum analyser, laser cutter processing support system, university lecturers and researchers performance assessment system, network switchboard Ullim, process monitoring programming tool Huingurum

### Top 10 model informatization units

- Kim Chaek University of Technology, Wonsan Leather Shoes Factory, Kwangbok Area Supermarket, Haebangsan Hotel, North Phyongan Provincial Long-distance Passenger Vehicle Company, Changgwang
- Health Complex, Pyongyang Department Store No.1, Rungna People's Recreation Ground Management Station, Mirae Primary School, Sinuju Port Imports and Exports Inspection and Quarantine Office

### Top 10 IT businesses

- Pyongyang Technology Corporation, Phurunhanul Corporation, Pyongyang Software Joint Development Centre, IT Institute of Kim Chaek University of Technology, Kwangmyong Ragwon Electronic Products Development Company, AI Technology Institute of
- the Faculty of Informatics of Kim Il Sung University, Pulgunbyol Research Institute, Mangyongdae Haeyang Technical Exchanging Company, Achim Computer Joint Venture Company, Samhung economic information technology company



## INNOVATION

## Mass technical innovation helps boost productivity

The Kumsong Tractor Factory is speeding up the modernization of production processes through a positive mass technical innovation drive.

"Well over a hundred employees of the factory attend study-while-you-work courses including that of Kim Chack University of Technology and they are encouraged to solve scientific and technical problems arising at their workshops," said chief engineer Kim Yong Nam.

According to him, the factory solved many technical problems that arose in the assembly-line production of a new type of 80hp tractor by relying on them.

Technicians and skilled workers refashioned the testing stand for the hydraulic steering of the tractor.

They also designed a four-axis boring machine. Previously, they separately drilled holes for the processing of the clutch

body. But the introduction of the machine enables workers to process four holes at a same time and ensure high precision of products while increasing productivity four times more than before.

The factory developed a CNC control device and control program for a boring machine, which is essential for putting general machine tools on CNC basis, in cooperation with the Control Machine Institute under the State Academy of Sciences. This has made it possible to increase the automation level of the machine and flexibility for a variety of product.

Besides, it introduced tens of valuable innovation plans including the establishment of the heat treatment process of slide axis of the tractor based on plasma.

By Yun Kyong Il PT



JON KWANG HUN / THE PYONGYANG TIMES

The processing-assembly workshop of the Kumsong Tractor Factory.

## Scores of technical ideas applied

Mass technical innovation drive is encouraged at the Ryongsong Machine Complex.

The complex has introduced dozens of new technical innovation plans into production this year.

It constantly pushes ahead with the work to improve the technical and practical qualifications and skills of technicians and skilled workers.

Process engineers give technology lectures and explain practical problems to workers in plain language to make them well versed in their work.

The complex also directs big efforts to improving the quality of products and innovating processing technologies.

Regular technical panel discussions provided good opportunities for raising the quality of castings.

The technicians introduced

a casting method based on combustion model into the production of different workpieces, making it possible to save much labour, materials and electricity.

They applied the method to the manufacture of hydraulic turbine scoop for hydropower stations and improved productivity.

They also made a new electrode gripper for electric furnace to raise the operating rate of equipment and shorten the melting time.

Other technical innovation plans include the design of a device for ensuring precision in assembling the synthesis gas compressor, the melting technique for raising the actual extract rate of ferromanganese in an electric furnace and the large gear rotational processing technique.

By Kim Kum Myong PT

## LIVESTOCK

## Farm turns out good animal breeds

"In the old days, a magistrate of Pongsan County boasted of stone as there could be found only stones in the place. In Unjong-ri, in particular, there were very few farmhouses as the land was sterile," said Pak Sang U, an 81-year-old native of the village in Pongsan County, North Hwanghae Province.

But now in the village there is the Unjong Livestock Cooperative Farm which specializes in breeding high-grade animals.

Its major products are kids and lambs, sour milk, yoghurt, milk curd and cheese.

The farm has over 3 200 hectares of natural grassland and 50 hectares of artificial grass fields and the grazing road stretches for 24 kilometres.

It increases the number of improved variety of kids with Boer and others as the parent stock.

"Stock is also essential in raising grass-eating domestic animals. We secure the breeding stock goats and produce healthy kids through artificial insemination," said Yun Myong Chol, stock recorder of goat branch No. 2.

The farmers channel special efforts into the supply of feed.

According to Kim Yong Sil, head of the branch farm, Boer has a big appetite, so it requires much labour.

As they made a good use of mountains to suit the topography, they created grass fields to get practical benefit.



RYANG KUM CHOL / THE PYONGYANG TIMES

Herds of goats are grazing at the Unjong Livestock Cooperative Farm in Pongsan County, North Hwanghae Province, the DPRK.

They improved rivers to sow grass seeds well-liked by goats and sheep around them, while creating terraced fields on gentle slopes.

They cultivate Aeguk grass and sugar cane to give animals highly nutritious feeds. After gathering them, they are dried or preserved in salt to get ready hundreds of tons of feed every year.

High protein feeds help increase the output of dairy products and the fattening rate of animals.

Pasturers make an effective use of grazing time.

"Generally, such grass-eating animals as sheep and goat are reluctant to graze at noon in summer as the sun blazes down. So we drive the animals to the cool places near streams so that they can chew the cud," said

pasturer Pak Chun Gyong.

Pasturers adopt the cyclical grazing method to suit the habit of herbivorous animals.

They herd animals along the places where there is plenty of their favourite feeds like arrowroot, acacia, bush clover and soft grass as well.

They also grow herbs to produce veterinary medicines.

The farm is also famous for Pongsan Mask Dance.

The folk dance that dates back to the period of Koguryo Kingdom (227 BC-AD 668) is practised by employees of this farm.

On Sundays or holidays, farmers and their families perform the traditional dance and promote friendly relations with each other.

By Chae Hyang Ok PT

## R&amp;D

## Injection sterilizer proves effective

The Pyongyang Analytical Technology Exchange Centre has unveiled a new type of injection sterilizer.

The facility, which is called continuous ultra-high frequency injection sterilizer, is an energy- and labour-saving one that automatically sterilizes injections by using ultra-high frequency with thermal mechanism.

According to Jo Chol Yong, department director of the exchange centre, it is important to thoroughly sterilize the medicines made of extracts from traditional medicinal materials and to prevent medicinal components from being destroyed during sterilization.

Many pharmaceutical units mainly sterilize injections with high-pressure steam and hot air. The sterilization based on these methods consumes much energy and requires much

time for sterilization, thus reducing the content of useful components in injections by 40 percent as compared to before the sterilization and changing the colour of injections.

But the sterilization using ultra-high frequency reportedly shortens the time of sterilization thanks to instant dielectric heating and causes neither destruction of medicinal elements nor colour change.

Researchers of the centre fixed the oscillating frequency of ultra-high frequency for sterilization, conceived the structural plan of a sterilizer that can ensure continuous, homogeneous heating and solved scientific and technological problems arising in the designing and making of devices and parts and the development of control programs for different purposes.

The injection sterilizer consists of an injection ampoule feeder, ultra-high frequency oscillating and screening device and automatic process control unit.

"The new type of injection sterilizer is cheaper in price, consumes less power and is more effective than the imported one with the same power output. It is convenient to handle as it is designed to run in an automatic control mode and does not require special maintenance and repair for a long time after its installation as it hardly gets out of order," said Han Se Yong, an office chief of the centre.

It makes it possible to save 75-80 percent of electricity, shorten the time of sterilization by one over dozens and ensure the quality of injections on a high level as against the high-pressure sterilization. Its advantages and economic effectiveness have already been proved in several medicine production units.

The demand for the sterilizer, winner of the 34th national sci-tech festival this year, is on the increase with each passing day.

By Kil Chung Il PT



## EDUCATION

# IT brought into wide application in teaching

Pyongyang Teachers Training College steadily updates teaching contents and methods to boost the efficiency of preschool and primary school education.

New methods include the technique for developing children's intelligence through abacus games and the teaching method using robot.

According to teachers, the abacus games are helpful to developing the right brains of pupils up to 12 years of age and improving their memory for images. The games include the learning of abacus and reckoning on it with imagination or while singing songs in a foreign language.

The teaching method using toy robot can be said to be innovative. In the lesson, preschoolers and pupils assemble parts to make a variety of toy robots.

In the course of this the children learn the rudiments of mechanics and information technology and develop creative abilities.

The application of these methods to the primary school attached to the college shows that pupils have become able to mentally do any complicated numerical calculation and

freely present their imagination regarding robot.

The college also works to enhance the practicability and visualization of education by employing various facilities.

And it applies new methods to raise students' qualifications for future educators. Especially, a VR teaching system has proved effective. It has been programmed with various circumstances to be confronted with by teachers during lessons and solutions to them as well. It helps teachers understand the mentality of preschool children and choose the right words.

"What seemed to be easy during lectures often arose as difficult problems during practical training. But this question has been resolved thanks to the introduction of the VR teaching system," said Ri Song Mi, third-year student of the college.

A draw is a teaching control room in which lecturers watch students giving VR lessons on-screen to analyse their merits and demerits and give them necessary instructions so that they can correct their shortcomings in time.

By Ri Sung Ik PT



CHAE MYONG RIM / THE PYONGYANG TIMES  
Students practise dance movements at Pyongyang Teachers Training College.

## EXTRACURRICULAR

# Pupils play their part with IT solutions

People call the IT hobby group members of the Hamhung Schoolchildren's Hall in South Hamgyong Province "juvenile inventors".

"There are so many national patents and software copyrights, certificates of registration of programs, hits and technical findings awarded to our teenage group members," said instructor Han Se Uk.

He is well known across the country for having trained many competent programmers. Dozens of senior middle school students who are now under his charge won national invention certificates (practical technology), medals of the national inventions exhibition, software copyrights and certificates of original plans and registration of scientific hits.

Especially, Paek Thae Ryong, second-year primary schoolboy, won a gold medal at the 16th national inventions exhibition last year and later received a certificate of invention by developing an algorithm study support program.

A development team was organized with seven students among the group to introduce programs into production sites.

"At first, I doubted whether they, nonprofessionals, could perform a great job. But I was greatly astonished to see the optical fibre cable management program they created to suit our specific conditions. Their

program is very effective", said Kim Yong Thae, chief engineer of the South Hamgyong Provincial Posts and Telecommunications Management Bureau.

The team developed financial, medicine management and ability assessing programs for different units to suit their specific conditions.

Hamhung University of Chemical Industry and other universities and middle schools in the province assess the abilities of students more scientifically by introducing the programs and these programs are also used at national contests to decide rankings.

The developers also completed the financial management program, which is believed to be complicated and impossible for nonprofessionals to design, to meet the specific conditions of each unit and accommodate the convenience of users.

With orders growing in the province and other parts of the country, many stories are told about the group members among locals.

"Their extraordinary abilities are the brilliant fruition of the correct education policy of the government. It is our duty to find excellent students and educate them well so that they can foster their creativity and development power to the full," said Han Se Uk.

By Kwon Hyo Song PT



CHOE MI GYONG / THE PYONGYANG TIMES  
IT hobby group members of the Hamhung Schoolchildren's Hall are brainstorming to develop a new program.

## COSTUME

# Tailor shop fares well with custom-made suits

"There can be no repetition in garment processing. It is our business strategy to make only one article of clothing according to a form. As there is not a person with the same constitution and figure, it is the secret of our success to make clothes to fit clients well while preserving the material and colour characteristics of cloth to the maximum," said Kong Hye Ok, chief of the Jongno clothes shop under the General Clothes Shop in Central District.

The clothes shop on Changjon Street in downtown Pyongyang is widely known as it makes fashionable clothes like surrounding environment.

The first process of tailoring is a careful observation of visitors like in other clothes shops, but the tailors' observation covers not only physique and figure but also ages, intelligence and sensitivity.

As clothing makes people look younger than their ages, prettier, more refined and better,

the tailors precisely observe all the features of garment orderers so that they can opt for the most suitable form of clothes while promoting merits to conceal demerits.

Kong Hye Ok, who is good at designing and tailoring, always presents distinctive clothes by making proper use of open form in her own way.

The order for suits and coats is on the rise in this autumn season, and the tailors select suitable cloth according to the likings of visitors and apply diverse designs to such parts as chest, waist, collar, pocket and sleeves so as to uniquely combine them with coloured cloth and decorations.

For example, when they design coats for women of fine physique and small stature, they give a long opening from the neck to the bottom and combine dark and light colours to create harmony. In case of tailoring unicoloured clothes, they add a belt ornament with a different colour to give the feeling of slenderness. In case of a tall woman with a lean physique, horizontal openings are given to the waist in various forms to achieve balance. In some cases, a little application of cloth with a different colour to the pocket or the addition of small-sized decorations to cuffs, chest and shoulder is enough to promote



PAK CHANG BOK / THE PYONGYANG TIMES  
The Jongno clothes shop in Central District, Pyongyang, is renowned for its fashionable made-to-measure clothes.

smartness, said Kong.

Pyon Kyong Ok is well-known in the district as a dexterous tailor.

Generally, men's clothes are said to be easier to cut as they are not so diverse in form as compared to women's clothes, but the tailoring of the collar of men's suit, the linking of shoulder part to sleeves and the processing of the chest part require very high skills.

Pyon is exceptionally good at expansion and contraction and all her tailor-made clothes are sleek like one.

The speciality of the clothes shop is Korean costume making.

"The Korean costume made at this shop is unique in design. The harmony of colours of jacket, skirt and breast-tie and decorative embroideries match so well with soft and elegant colours and patterns that the national costume looks as beautiful as a picture," said Kim Yun Hui, a resident in Yokjondong of Central District.

She said that she ordered a wedding dress for her daughter.

The beautiful, elegant, noble and gorgeous Korean costume is said to have been decorated and enhanced in an original way by designer Mun Yang Mi.

By Kim Rye Yong PT



## DISEASE CONTROL

## Combat against communicable diseases under way

The World Health Organization warned last April that the acute infectious disease of measles was spreading rapidly on a worldwide scale.

According to its notification, more than 112 160 people contracted measles in 170 countries and regions in the first three months of this year, or about a four-time increase as compared to the same period of last year.

Amid a proactive nationwide efforts to prevent the disease in the DPRK, *The Pyongyang Times* reporter Kim Rye Yong interviewed Hong Sun Gwang, deputy chief of the national hygienic inspection agency.

*How is the measles prevention work going?*

Our country already eliminated the disease and the WHO officially announced this in March this year.

But we are paying special attention to its prevention with winter just ahead as the disease usually spreads in the season.

Primary attention is being paid to keeping children who lack immunity from catching the epidemic. To this end, children between nine-month-old and 16-year-old across the country were inoculated against measles and rubella last October.

A close watch has been kept for all persons entering the country from border areas to spot eruptive cases and a system is in operation whereby suspicious persons are put under medical observation for 21 days.

Hygienic information activities are conducted to enhance awareness of such infectious diseases as measles among residents, especially those in border areas, and a prompt information system related to the outbreak of communicable diseases is established from central to local levels.

*What do you think is important in eliminating such diseases?*

It is prevention.

Prophylaxis is the basis of our socialist medicine.

As it is a massive undertaking, it is impossible to prevent infectious diseases without unified control by the state.

The inoculation rate in our country is over 99.8 percent on average.

The national hygienic inspection agency worked out a plan to improve the country's standard concerning the outbreak of communicable diseases onto the world's advanced level in five years until 2020 and has hit the phased target every year.

After measles was stamped out this year, whooping cough, Japanese encephalitis, rubella and different other epidemics are at the elimination phase.

Steady progress has been made in preventing such diseases thanks to a deep sense of responsibility and role of anti-epidemic institutions at all levels and household doctors, hygienic information activities through e-publications and activities conducted in clean-up months.

## ACCOMMODATION



## Luminous hotel lures guests with quality service

The Sosan Hotel located in the sports village on Chongchun Street in Pyongyang is welcoming to all guests with its friendly service and excellent facilities and scenic and clean environment.

The hotel's surroundings fascinate guests at first sight.

Rising up in an imposing triangular prism shape at the foot of Mt So, it is encircled by verdant foliage to present a striking contrast to downtown hotels.

The lower half of the 30-storey building is invisible from the main road as it is hidden behind thick trees and its 18 000-square-metre environs are jam-packed with massive trees and lush greens where the birds sing and the air is fresh.

The 20-odd-year-old hotel was rebuilt in 2015 in a modern style.

The atrium extends up to the third floor and spacious halls lead to dining halls, wading and swimming pools, fitness, massage and billiard rooms, banquet hall and karaoke bar and bookshop. Each section is distinctive in style and every place is decorated with chandeliers, mirrors and fragrant flower pots.

The deluxe, premium and standard suites win favour with a variety of guests as they are clean, neat and affordable.

"I think good taste of food is a major attraction for guests," said Kim Chang Ho, chief of the barbeque dining hall. "The

chefs of our hotel do their best to make dishes to suit the taste of guests according to their regions and nationalities, but the most popular are Korean dishes like our Korean barbeque."

Pyongyang cold noodles and kimchi, which are Korean specialities, are always the most sought-after, he added.

The hotel offers a breathtaking view at night.

When darkness sets in, mystic illuminations fill the greens around the hotel, unfolding an amalgam of imaginary and real worlds, which evoke an irresistible urge to walk through them.

Barbeque tables and tents are installed in the greens so that guests can dine anytime in the great outdoors.

There is a fishing pond with

an area of 1 500 square metres in front of the hotel to give exceptional pleasure to guests.

It is an unusual pastime for guests to do angling at the pond swarming with sturgeon, Ryongjong fish, carps, tilapias and porgies and eat what they caught.

"We try to improve our service as the number of guests is increasing," said Pak Chol Min, chief of the reception department. "The strongest appeal for guests is warm hospitality of the hosts and that's why the hotel staff is trying hard to make 'excellent service' become the pull of our hotel."

The hotel was filled to capacity during the tourist season this year.

By Ri Sang Il PT



PAK CHANG BOK / THE PYONGYANG TIMES

A stunning night view of the Sosan Hotel.

## PROFILE

## Researcher puts heart and soul into preserving cultural heritage

One Sunday when he climbed Moran Hill with his family members, Choe Pong Chol, a researcher at the Korea National Heritage Preservation Agency under

the National Authority for the Protection of Cultural Heritage (NAPCH) of the DPRK, faced an unexpected question from his little son.

Gazing steadily at the Ulmil

Pavilion of great antiquity, the boy suddenly asked him, "Has it been discoloured so much as it is an old house?"

"His question made a big impact on me, as I'm responsible for preserving national cultural heritage properly. It seemed as if he was asking me, 'Is it discoloured as you did not fulfil your responsibility?'" recalled Choe.

The simple question immediately prompted him to make pigments for coloured painting that are clear in colour and resistant to sunlight, heat, humidity and cold and to start studying written records.

During his study of data on coloured painting, a kind of architectural decorative painting with a long history, Choe became confident that he could obtain all colours needed for coloured painting decoration if he had 12 standard colours

including red, green and blue.

A research team was formed with Choe as leader, and it succeeded in making three primary colours first. It was easier than they imagined, but the colours were too bright and dark. So these did not suit the aesthetic taste of the Korean people, but rather, they might degrade the value of historical cultural heritage.

The researchers conducted another survey of many historical sites including Phyohun Temple in Mt Kumgang and Pohyon Temple in Mt Myohyang and finally found out the original colours of subdued and soft coloured painting.

On the basis of this the team discovered sources of pigments for 12 standard colours and analysed numerical values for them according to their brightness, tinting strength, oil absorption and hiding power through hundreds of rounds of tests and analyses. And they succeeded in making pigments for coloured painting that do not fade for a long time in the sunlight, wind and rain by mixing various kinds of mediums, dispersing agents,

defoamers and preservatives.

"It was a great success, but it was also not easy to confirm the mixing ratio to obtain dozens of colours for coloured painting with 12 colours. To this end, the research team had to conduct tests hundreds of times again," said Jong Yong Hui, an analyser of the agency.

After years-long painstaking efforts they finally collected scientific data on making all colours needed for the preservation of coloured painting.

The day when the paints for coloured painting were set as a national standard at the State Commission of Quality Management, Choe said, "From now on my son will be able to see my image through the beautiful coloured paintings of the historical relics."

Their development was used to restore the coloured paintings of many historical relics across the country including Sungin Hall in Pyongyang and Kwanum Temple in Kaesong.

By Pang Un Ju PT



KIM YONG CHAN / THE PYONGYANG TIMES

Choe Pong Chol (centre), a researcher of the Korea National Heritage Preservation Agency under the National Authority for the Protection of Cultural Heritage, discusses with his colleagues.



## COMMENT

# Terminated arms control treaty has repercussions worldwide

Russian Foreign Minister Sergey Lavrov in a recent interview with a newspaper said it was his view that Western countries would eventually realize that global and regional security and stability would be bolstered up only when they strictly abided by international law.

Pundits commented his remarks were highly suggestive of Russia's dissatisfaction with the US that is complicating international relations as it pursues a unilateral and self-righteous line.

Russia sees that the Americans seek freedom of action in the military field through the abrogation of the Intermediate-Range Nuclear Forces Treaty and by other means and regards such a US policy as a premeditated act of wrecking the strategic security structure of the world.

Back on August 2, the US completely withdrew from the INF Treaty, claiming that Russia deployed for action cruise missiles with ranges of 2 000 to 5 000 kilometres in recent years, or more specifically the 9M729 missile, which the Americans say exceeds the range stipulated in the treaty.

Sixteen days after its withdrawal from the treaty, the US test fired the Tomahawk ground-based cruise missile.

According to information available, the missile is an

improved version using the MK-41 launcher which has been employed in the missile defence systems in Romania and Poland. Therefore, it was confirmed that the launcher can be used not only in the anti-missile system but also in the attack-oriented system at any time.

Tomahawk is known to have a range of over 2 499 kilometres. This means that the vast areas of the Russian territory in the European direction will be placed within the radius of the US' intermediate-range cruise missile.

MK-41 is said to be an all-round launcher that can be used in launching the SM-3 interceptor missile and various cruise missiles.

Russia has misgivings about the US' deployment of ground-based cruise missiles with a range of over 500 kilometres in Asia and Europe.

"If the US positions such a system anywhere in Asia or Europe, the system will cover our territory and pose a direct threat to Russia," said the chairman of the International Affairs Committee of the Russian Federation Council.

The MK-41 capable of launching US ground-based cruise missiles is already in position in some European countries and it is expected that the launcher will be deployed extensively in NATO member nations in Eastern Europe.

The NATO Secretary General on September 11 asserted that Russia was deploying nuclear missiles in Europe. Russia retorted that his remark was nothing more than an excuse for justifying the deployment of intermediate-range missiles capable of carrying nuclear warheads in NATO countries.

There is also a strong possibility that US intermediate-range missiles will be deployed in Asia.

Russian President Vladimir Putin warned in a plenary meeting of the Eastern Economic Forum on September 5 that if US missiles were deployed in Japan and south Korea, it would be a serious threat to Russia and a large proportion of the Russian territory including the Far East would be placed within the range of those missiles. He added that though his country was also producing a similar type of missiles, it would not site them ahead of the US.

His remarks imply that the real wrecker of the global strategic security structure can be identified once again by seeing who deploys such missiles first.

What is clear at present is that instability factors are growing to threaten world peace and the risk of worldwide clash is being heightened as the days go by.

By Choe Yong Nam PT

## CUBA

# Powering forward through challenges

Miguel Mario Diaz-Canel Bermudez was elected president of the Republic of Cuba in the fourth special session of the Ninth National Assembly of People's Power of Cuba on October 10 in conformity with the unanimous will of the Cuban people.

It is a reflection of their firm determination to adhere to and advance socialism.

The Cuban people create a new life by their own efforts as they fight off manifold difficulties and challenges at home and abroad.

In the new school year that started last September, schools have had a larger enrolment as compared to the previous school year, with the admissions numbering over 1.7 million. And more than 160 000 teachers set to work. New schools were built in different parts of the country to increase the number of pupils. This is attributable to universal free education the Cuban government has enforced despite all manner of difficulties.

In accordance with the agreements it has concluded

with different countries since the 1960s, Cuba has dispatched about 30 000 medical workers to developing countries to offer them cooperation.

Positive measures have been taken to increase agricultural and electricity production.

The country pays close attention to bolstering up relations with such socialist countries as China and Vietnam and such developing countries as Angola.

It also signed an agreement on the modernization of railway network worth US\$1 billion with Russia last June and a series of issues of practical significance were discussed between the two countries during the Cuban President's recent Russia tour.

The Cubans strive to safeguard their sovereignty and socialist system under the leadership of the Communist Party of Cuba and achieve development and prosperity by themselves, and their efforts are winning positive support and sympathy of the world's progressive peoples.

By Song Jong Ho PT

## CASUALTY

# Victims of 'anti-terror war'

Residents in the troubled parts of the world are under constant threat at present, notably the Afghans.

In Afghanistan civilians lose their lives more than service personnel and armed group members.

Government forces attacked a haunt of Taliban forces in an area of Helmand Province at night on Sep 22. At that time, there was a wedding ceremony near the attacking place. An official of the provincial council said that dozens of civilians who participated in the ceremony were killed during the assault.

On Sep 18 the US forces stationed in Afghanistan made a drone raid on civilians in Nangarhar Province in the east of the country, killing 30 and injuring 40. It is said that the victims were workers who were taking a rest around a fire in a mountainous place.

According to information released by the UN, 1 366 people lost their lives and 2 446 got injured in the country in the first half of this year, of which children amounted to nearly 1 210. In July alone, armed conflicts caused over 1 500 civilian casualties.

This shows that the number of civilian casualties this year will

exceed those of last year.

Children are the major target of terrorism across the world. Millions of children are suffering from malnutrition and diseases as they cannot have access to food, drinking water, hygienic and health facilities and other elementary services due to disputes.

According to information available, those who were killed or injured in different troubled areas last year numbered over 12 000. More than 7 000 children were conscripted and many of them were sexually assaulted. Last year, 1.8 million Yemeni children under five years old suffered from malnutrition.

The children in disputed areas are reluctant to go to school as they have been exposed to terrorism. Over 1 000 schools were closed in Afghanistan last year. More than 3.7 million children, or about half the number of 7 to 17-year-olds, do not get school education in the country. Last year, 827 schools closed their doors in Mali.

To defend peace and social stability it is needed to put an end to military disputes for children and other people.

By Om Ryong PT

## CLIMATE CHANGE

# Temperature rise sends out a warning call

The world community is getting more apprehensive about the incessant rise in carbon dioxide emission and temperature.

The World Meteorological Organization recently announced that the five years between 2015 and 2019 witnessed a 0.2°C increase in average temperature over the previous five years, which signifies a 1.1°C rise as compared to the period between 1850 and 1900.

Meanwhile, the French national scientific research centre released a report predicting that the global average temperature in around 2100 will rise by 5.8°C at maximum over the present figure.

Global warming has caused a variety of abnormal climatic conditions to inflict widespread damage around the world.

Sea level continues to rise as glaciers melt and severe hot

waves, typhoon, flood and other natural catastrophes threaten the lives of people.

It is estimated that if global warming accelerates at the present rate, sea level will rise by over one metre and the world's glaciers will disappear by more than 40 percent by the end of the present century.

The natural disaster statistics collected in the first week of September showed that earthquake, flood, forest fire and tropical typhoon caused enormous loss of life and materials in the US, Australia, Niger, the Bahamas, China, Russia, Vietnam and elsewhere.

Now that the global average temperature has risen much higher than that in the period before the industrial revolution, mankind is subjected to terrible suffering. It is not difficult to imagine how greater disasters future generations will suffer if the temperature rises more than

the present level.

At a climate-related summit meeting held in the UN headquarters on September 23, the UN secretary general called on all countries to turn out in the practical action to reduce greenhouse gas emission by 2050.

China, Russia and many other countries are expressing their willingness to make greater efforts to prevent climate change.

According to experts, natural disaster is inseparable from climate change and greater disasters will hit the world unless global warming is retarded.

And international media assert that without substantial measures to prevent global warming, humankind will be unable to avoid danger, and therefore all countries should turn out in the work.

By Min Chol PT



## LEGEND

# Legendary weightlifter makes history with five new records

Om Yun Chol (pictured) set a new world record for the fifth time and became the five-time world champion by jerking 166kg and snatching 128kg, 294kg in total, in the men's 55kg event in the 2019 IWF World Weightlifting Championships held in Thailand in September.

He surprised hundreds of weightlifters and experts participating in the championships as the weight he jerked more than trebled his weight.

"I think the new record set by Om Yun Chol this time will never be broken by any others in the future," said Mohammed Hasan Jalood, secretary general of the International Weightlifting Federation.

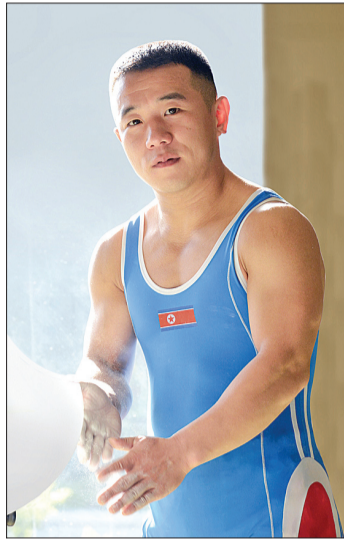
Hailing from Sunam District of Chongjin City, North Hamgyong Province, Om loved sports very much from his childhood and soon showed a gift for weightlifting.

In a year and half after beginning weightlifting he participated in the national juvenile sports school weightlifting contest for the first time and took the first place in the boy's 33kg division.

But his success as a professional and a world champion was still a long way away.

"Mom, I want to learn weightlifting in Pyongyang. I will win a gold medal in the international competition in the future," he said.

It was 15 years ago when he was insistent on his demand and left home. He came to Pyongyang to see Ro Hyon Chol, weightlifting coach of the



Amnokgang Sports Club.

At the time Om eagerly asked the coach to admit him to the club.

Ro was so impressed by the laudable intention of a boy that he brought him to experts on the selection of young players, but the result was hopeless. All of them said no to him.

"I could not ignore him, who saw me with tears in his eyes as if asking for help. It was surprising that he had come a long way to Pyongyang alone. But more surprising was his determination to become a world champion and unusual fondness for the sport. It probably impressed me most, I think. Anyway, I wanted to cultivate his dream and made a decision to train him to become an excellent player. So I admitted him as a weightlifter," recalled Ro.

Yun Chol trained hard to improve his physical fitness and perseverance lifting hundreds of tons of heavy weight every day and did not leave the training

ground without carrying out his daily training plan.

"The training was so hard that I sometimes wavered. But every time I thought of the coach who sincerely supported my decision and helped me from the first step, and it greatly encouraged me," Yun Chol said.

Sin Chol Bom, who has played in the same club as a weightlifter for a long time with him, said Yun Chol carries out his assignments for training, however tough, unconditionally and achieves the goals once he set without fail. "I think his unusual liking for the sport and great enthusiasm led him to success," he added.

His sincere and untiring efforts bore fruit: five years later, he became a defending champion in his weight category on the home front and won international events in succession.

He won the men's 55-56kg titles in the 30th Olympic Games in 2012, world weightlifting championships in 2013, 2014 and 2015, 2018 IWF world weightlifting championships and many other international events, bagging 24 gold medals and setting new world records five times.

"I have done what I have to do as a sportsman, but the government awarded me the country's top prizes, including Kim Jong Il Prize and the titles of Labour Hero and People's Athlete. I am very happy with pride in having lived up to the trust and expectations of the country, though little," said Om.

By Jong Tang Song PT

## RELICS

# Relics add elegance to celebrated mountain

Mt Myohyang has many historical and cultural relics.

The Pohyon Temple is one of them.

Built in 1042 in the period of Koryo which existed between 918 and 1392, it was rebuilt several times. The present temple was rebuilt in 1765.

With an area of more than 50 000 square metres, such structures as Jogye, Haethal and Chonwang gates, quadrangular nine-storey pagoda, Manse Pavilion, octagonal 13-storey pagoda and Tacung Hall stand in order. The temple also includes Kwanum and Ryongsan halls, Suchung Temple and a building housing the 80 000 Blocks of the Complete Collection of Buddhist Scriptures in the environs.

The Tacung Hall, the main shrine of the temple, is a gabled house built on the well-trimmed granite platform and it is bedecked with golden painting combined with gorgeous silk patterns on the whole surface.

All parts and elements of the building have red-and-blue patterns and pictures of flowers, birds and Buddhist

images to promote their gorgeousness.

Every visitor to the Manse Pavilion expresses admiration for its construction on a slope and the bold painting of gabled roofs on the two-storey façade and single-storey rear.

The Kwanum Hall is large in scale and well balanced. The sculptures of flowerpots, ornaments and grass leaves are very soft and delicate.

The quadrangular nine-storey and octagonal 13-storey pagodas also show high masonry.

They were built with well-trimmed granite and the 13-storey pagoda is featured by the windbells installed on the edge of angle rafters on each storey.

Besides, the Pohyon Temple has Sangwon, Puryong, Kungang, Habiro and Pobwang hermitages and Wonmyong Temple with unique charm peculiar to each of them.

Muhak, a renowned monk of Koryo, and Saint Sosan, a patriotic monk, lived in the Kungang Hermitage.

By Kil Chung Il PT



Tangun Temple on Mt Myohyang.

AN CHOL RYONG / PICTORIAL KOREA

## CERAMICWARE

# Korean porcelain making time-honoured



SONG YONG SOK / THE PYONGYANG TIMES

Koryo celadons of the 11th-12th centuries at the Koryo Museum in Kaesong, the DPRK.

The Korean people have long created and developed ceramic manufacturing techniques.

In the period of the Neolithic era a variety of earthenware was made. The vessels featured by symmetrical and balanced proportions and diverse patterns show well the ancestors' formative artistic abilities and unique cultural tradition.

In ancient times, rapid progress was made in the production of ceramics.

The moulding method by means of a potter's wheel and a method of covering a certain shape of frame with cloth and plastering clay on it before drawing out the framework were

more effective and productive than manual moulding. The method of baking vessels in an airtight condition of cauldron whose temperature measured over 1 100°C helped develop the previous earthenware into chinaware.

In the Middle Ages, the Korean ancestors brought out such world-famous pottery as Koryo celadon and makeup ware.

They contrived glaze and manufactured glazed chinaware in different colours in the period of the Three Kingdoms and established celadon and white porcelain making techniques in the course of that.

Ceramics made further development in the periods of Palhae and Later Silla, and the chinaware, which was called "Palhaesamchae", was widely known to different countries.

In particular, the ancestors made Koryo celadon which

takes a remarkable position in the history of the world's ceramic workmanship. Korea's silk fabrics, ceramics, paper, ink, fan, mat and insam (ginseng) were highly appreciated in neighbouring countries in the Middle Ages. Among them, Koryo celadon won special fame for its rich variety and high artistic quality in terms of colour, pattern and shape.

On the basis of porcelain production technique in the period of Koguryo and the earthenware manufacturing techniques of Palhae and Later Silla, the Koryo people selected and developed the beautiful blue colour of the nature and emerald green colour favoured by the Koreans from olden times to make the blue green celadon. And they developed

the Koryo celadon into inlaid emerald green pottery which was the best in terms of artistry and technology by applying a unique inlay technique, in which the patterns carved on the surface of the ceramics are filled with different coloured soils to put glaze on it before baking. They also increased the variety of celadon and diversified its form, thereby further raising the artistic value of Koryo celadon.

The makeup ware and white ceramics manufacturing techniques also made further development in the period of the feudal Joseon dynasty.

Such ceramic manufacturing techniques are inherited and developed under the close concern of the state.

By Ri Myong Jun PT

