Dear Reader,

The Covid-19 pandemic is still not over, though its effect is seemingly lesser now. Hence, Nehru Centre has decided to open some of its spaces, though very cautiously. As we limp back to normalcy, some of our services have resumed from February 2021 and we shall announce further details in due course. We request all visitors to the Centre to adhere to the safety protocols. We do hope you will understand that this is not only for the safety of all of us but for all of you as well.

We always look forward to your feedback and suggestions.

Chief Executive,
Nehru Centre.

Indian Armed Forces: In Service of the Country

The frontier tribes had planned to attack not only Srinagar but also Rajouri and Poonch. The latter inhabited mainly by prosperous Hindu traders was an attractive target, and it was also strategically important. Located south of the Kashmir valley, Poonch and Rajouri controlled road connectivity between Jammu and Srinagar. Therefore, defence of Poonch was absolutely essential from India’s point of view.

The gallant soldiers of the 1 Kumaon Regiment braved the most hazardous route, besides outwitting the raiders who were spread out across the area, to get to Poonch on 22 November 1947. Thus began the defence of Poonch which had been encircled by the raiders. It was obvious that Poonch could be sustained only by air. So the first task before the defenders of Poonch was to build an airstrip for the landing and takeoff of the aircraft laden with essential supplies. With the help of over 6000 citizens of Poonch, the airstrip was ready by mid-December 1947.

Air Commodore Mehar Singh, Officer commanding the 1 operational group in Jammu and Kashmir personally carried out a trial landing on 8 December 1947 in a trainer aircraft at Poonch airstrip and thereafter “took on the onerous responsibility of being the first one to land a fully loaded (6000 pounds of food and rations) Dakota on the 750-yard-long makeshift airstrip.” Arjun Subramaniam in his book India’s Wars writes, “The operational record book of 12 Squadron indicates that between 10 and 20 December, almost 4,30,000 lb of load including light artillery guns were flown into Poonch. So committed was the Squadron to sustaining Poonch that it took night operations to deliver 25-pounder artillery guns that were badly needed by the defenders to...

contd. on page 2
counter enemy bombardment from the surrounding hills. The Squadron also caused great confusion amongst the raiders by night bombings on their positions in the hills leading to their complete demoralization.” While the Air Force played a magnificent role, the Poonch Brigade too was reinforced. It now comprised of two regular Indian Army battalions and two battalions of state forces and some volunteer militia. But the raiders were still there on the hills surrounding Poonch keeping its defenders on full alert.

In the midst of the Poonch situation, information came that raiders were heading towards Dras, Kargil and Leh, all three above 10,000 feet in height. A column of 2 Dogra Regiment of 161 Brigade set out from Srinagar in mid-February 1948 and completed the impossible task by reaching Leh covering 360 km of snowbound terrain from Srinagar, on 8th March 1948. Though the Dogras foiled repeated attempts by the raiders to take over Leh, it was clear that it could be saved by reinforcing it from the air. Once again the Indian Air Force carried out an extraordinary feat. Air Commodore Mehar Singh, the exceptionally skilled and courageous pilot, landed at Leh which is at an altitude of 11,500 ft and created history in military aviation in India. The Air Force opened the air bridge to Leh and carried out four to six landings every day for two weeks transporting Dogra and Gorkha soldiers to Leh. The 2 Dogra Regiment, Gorkhas from 2/4 and 2/8 Gorkha Rifles and 12 Squadron of the Indian Air Force saved Leh.

The situation faced by the Indian Army was still very difficult. High altitude battle was raging in the Zojila, Kargil and Dras sectors. Hills around Poonch were dominated by the raiders and the Pakistani army. Jammu too was under threat. All this meant that a number of battles had to be fought and won in order to save Kashmir.

It was Brigadier Mohammed Usman’s 50 Para Brigade which fought its way to capture Naushera which cleared the way to Poonch. In the battle for Naushera, 7 Squadron of the Indian Air Force played a crucial role by pounding enemy troop concentrations and gun positions around Naushera. Another gallant Brigade Commander, Brigadier Yadunath Singh of 19 Brigade recaptured Jhangar after three days of fierce battle.

At this stage Major General Thimayya, the Division Commander, “planned an audacious operation”. He planned moving Stuart light tanks from Jammu to Srinagar. The tanks were dismantled and transported as water carriers to a place 80 km from Srinagar where they were reassembled.

On November 1, 1948 Pakistan raiders were shocked to face a combined arms assault by tanks and fighter aircraft. In the next two weeks Kargil and Dras were recaptured by the Indian Army. By 21 November the raiders were a defeated force but still in possession of sizeable territory of Kashmir. As the winter set in spreading a white blanket over Kashmir, the guns fell silent and political forces took over. Indian Army was ordered to wait till the spring of 1949. Thereafter, the Kashmir issue was referred to the United Nations. The rest, as the cliché goes, is history.

What Nehru said....

I do not want to settle the fate of Kashmir by military force. But, equally certainly, if the Pakistan people go on employing their army against us in Kashmir, we shall meet them by military force. It seems to be forgotten that the Pakistan army is in the Indian union territory and that all the fighting has been thus far in our territory.

.... November 18, 1948, New Delhi
Edward Pickering’s Work on Stellar Spectroscopy

Towards the end of the 20th century, photographic techniques became primary technology for astronomical observations. Astronomers photographed star fields to make better star maps, and to study planets, asteroids, comets and diffuse nebulae. They preferred to use light-sensitive photographic chemicals coated on glass plates rather than coated on celluloid as glass plates are more stable and non-flammable.

Henry Draper, a wealthy American doctor was an amateur astronomer too. He was interested in photographing the spectrum of stars on photographic plates and thus built his own observatory. Unfortunately, Draper died at the age of 55 in November 1882. Draper’s widow Mary Anna Draper donated his observatory and photographic records to their good friend Edward Charles Pickering, an American astronomer and physicist which proved a turning point in the life of Pickering. She requested Pickering to complete her husband’s unfinished work of ‘gathering of stellar spectra through the use of photography’.

In 1884 Pickering published a paper titled *Researches upon the photography of planetary and stellar spectra*, in the Proceedings of American Academy of Arts and Science with late Henry Draper as its author and added *Results of Measurements* by Edward C. Pickering.

Pickering, born in Boston, Massachusetts on July 19, 1846 was interested in star-gazing as a boy and constructed his own telescope by the age of twelve. He received his Bachelor of Science (BS) degree in 1865. A year later he moved to the Massachusetts Institute of Technology (MIT) as an assistant professor of Physics. In 1888, he was appointed as the Thayer Professor of Physics at the Institute. During the ten years that he was there, he created the first physics lab in U.S.A. that was set up for students to publish their own findings and research.

From 1877 till his death in 1919 he served as Director of Harvard College Observatory. At that time the significance of stellar spectroscopy was not fully understood by astronomers. But Pickering knew that the work begun by Draper and continued by him was significant to astronomical studies.

In 1882, he developed a method of simultaneously photographing the spectra of many stars. He made a large prism which he put in front of the unexposed photographic plates. He and his team successfully photographed more than 2,20,000 stars. It was estimated that the total weight of the photographic plates was about 120 tons.

This mammoth work resulted in the classification of stellar spectra which was called the Harvard Stellar Classification, which is still in use and also the completion of the Henry Draper Catalogue.

In the early part of the 20th century, scientists were working on developing atomic theory and trying to find out how atoms are structured. Niels Bohr, a Danish physicist and Max Planck, a German physicist
successfully worked out a theory of atomic structure and developed quantum theory, which states that both light and matter consists of tiny particles which have wavelike properties associated with them. Both of them received the Nobel Prize in Physics. Pickering’s work of observation of stellar spectra provided confirmation to the work of Niels Bohr and Max Planck.

With these important contributions, the Harvard College Observatory (HCO) became known and respected across the world. Astronomers regularly used photographic copies of a library of stellar spectra from HCO for the purpose of comparing the spectrum of a star.

Pickering was the fourth and longest-serving director of HCO. He served for 42 years before he died on February 3, 1919. Pickering was remembered by his friends and associates for his great ability, originality, initiative and warm-heartedness. He was a mountain climber, enjoyed bicycling and loved western classical music. The world today remembers Pickering for his contribution to astronomical photography and the advancement of astronomical discoveries.

Pickering was also known for his liberal views on women astronomers. The success of Pickering’s work saw ever increasing demand for copies of stellar spectra from various observatories across the world. Making photographic copies and sending them was time-consuming and demanded more assistants. When he was Director of HCO, women were paid lesser than men. Pickering recruited more than eighty graduate women to work for him. Some of them offered their assistance for free just to gain experience. Those who were good in mathematics were specifically employed to perform calculations. These women were called 'computers' which was a term that was used in the early 17th century for a person adept in mathematical calculations.

It has been famously said that Pickering was so exasperated with his male assistant’s inefficiency that he once remarked that even his maid could do a better job of copying and computing. He treated his staff well, encouraged them to attend conferences and willingly gave them their due credit. Henrietta Leavitt’s work on period-luminosity and its relationship with Cepheid Variables (see January 2021 newsletter) was published by Pickering.

Among other women who made important contributions to astronomy were Annie Jump Cannon, who introduced stellar classification, Antonia Maury, who was the first to detect and calculate the orbit of a spectroscopic binary and Florence Cushman who worked with Cannon on stellar classification and on compiling the Henry Draper Catalogue.

It is widely acknowledged in the world of astronomy that contributions by these women paved the way for many great female scientists and leaders.
Most parts of India abound with tribal/village communities who have their own tradition of dance and music. Folk dances are an integral part of the tribal culture of these communities. With this article, we begin a series on the *Folk Dances of India* in different states of the country.

The topography of Andhra Pradesh varies from forests, hills and village settlements. People dwelling in these remote areas have their own vibrant culture of celebrating festivals and weddings through dance. These dances can be broadly classified under three heads: i) religious dances ii) social dances and iii) dance as a pastime.

Some popular folk dances of Andhra Pradesh are:

**Gusadi Dance** – The Raj Gonds celebrate the post-harvest season as the weather is cool and pleasant. Dressed in colourful costumes and decorated with ornaments they go to neighbouring villages in troupes, singing and dancing. Each member puts on a turban of peacock feathers, artificial beard and moustaches, goatskin as body covers, strings of cowries and beads around the necks, tinkling bells on wrists, white stripes and dots on the bodies, with pieces of cloth around the waist and poles in their hands. They dance rhythmically, stepping forward and backward and left and right and also zigzag to the accompaniment of music. As the dance ends, the hosting villagers invite them and wash their feet.

**Lambadi Dance** - The semi-nomadic tribe that is spread all over Andhra is the Lambadi, also known as Banjaras or Sugalis. Lambadi dances are simple but charming and are inspired by movements associated with daily tasks like harvesting, planting, sowing, and so on. The costumes, embroidered with glass-beads and shining discs are picturesque, matched with the abundance of ornate jewellery worn by them. The jingling brass anklets, the ivory bangles from wrists to elbows provide natural rhythm to their dances. Twenty to thirty Banjara women dressed in colorful costumes with shining brass vessels filled with water either on the head or on their waist, present a group dance wherein the graceful movements provide a feast to the onlookers.

**Dhimsa Dance** - The Araku Valley is the most charming hilly region in Vishakhapatnam district. Valmiki, Bagata, Khond and Kotia tribes inhabit this district. The favourite dance of this tribe is 'Dhimsa' which is performed by old and young, men and women during the month of Chaitra i.e. March/April. People go from one village to another to participate in the dance and enjoy community feasts. Dhimsa dance provides an opportunity to the dancers to develop friendship and fraternity. The instruments accompanying Dhimsa are *mori, kirdi, tudumu, dappu and jodukommulu* (double horns). There are eight varieties of Dhimsa dance.
Late Nandlal Sharma Bharadwaj belonged to the Indore School of Arts from where he obtained his art education. His dimensions and concepts in water and oil colours are followed by many other artists.

NANDLAL SHARMA BHARADWAJ

Tuesday, 2nd March 2021 to Monday, 8th March 2021
(Circular Gallery)

Spandan Foundation started their art journey in 2013. The foundation introduces artists from various countries. They also curate art exhibitions of renowned painters and sculptors from India and abroad.

SPANDAN GLOBAL ART & CULTURAL FOUNDATION, GOA

Tuesday, 16th March 2021 to Monday, 22nd March 2021
(Both Galleries)

Dattatreya Balwant Gajbar popularly known as 'Baba Gajbar' was born in 1886 at Kagal in Kolhapur. Sardar Ghorpade who was a distant relative of the Gajbar family, introduced him to Rajarshi Shahu Maharaj who was so impressed with the talent of young Dattatreya, that he arranged for his training in drawing and painting in the art school of Kolhapur.

Baba Gajbar painted many portraits of well-known persons. Perfect drawing of the outline and skilful rendering made his portraits popular. His brushing gave the exact texture of silk, cotton or other type of drapery. Baba's portrait of Jawaharlal Nehru was the best of all his portraits. His other portraits include the portraits of Yashwantrao Chavan and Shahaji Maharaj as well as portraits of other prominent citizens of Kolhapur.

The techniques of powder-shading, handling of pencil, watercolour and oil-colours were some skills that he taught his students. His pupils like Chandrakant Mandhre and Ganpatrao Wadangekar became famous for their watercolours and pencil handling. Baba’s Amrit Mahotsava was celebrated at Kolhapur when he completed 75 years on 15th January 1962. With his death in 1973, Kolhapur lost a great artist.

The Art Gallery had exhibited the works of Baba Gajbar and his disciple Ganpatrao Wadangekar as a part of the Indian Masters Retrospective in 2002-03.

Do read about Kalatapasvi Ganpatrao Wadangekar in next month’s edition.

KALATAPASVI BABA GAJBAR

Indian Masters’ Retrospective

Mahatma Gandhi
Pt. Jawaharlal Nehru

Nehru Centre Newsletter - March 2021
UNESCO World Heritage Sites in India

18. Churches and Convents of Goa

The churches and convents of Goa owe their existence to the Portuguese rule in this part of the western coast of India. Built in the Renaissance style during the 15th century at Old Goa they comprise the following: Sé Cathedral, Basilica of Bom Jesus, Church and Convent of St. Francis of Assisi, Church of Lady of Rosary, Church of St. Augustine and Chapel of St. Catherine.

*Sé Cathedral* is the largest church among the group and is 35.36m high on the façade, 76.2m long and 55.16m wide. Built on a raised plinth of laterite and covered with lime plaster, the church has a main altar, eight chapels alongside the aisles and six altars in the transept. The ceiling is in the form of a barrel-vault with ribs on arches, thus replacing the Gothic ribbed vault with interlacing arches. The main door of the cathedral has Corinthian columns.

The *Basilica of Bom Jesus*, the most celebrated sanctuary of Goa was built in 1585. The church is called 'Bom Jesus' meaning 'good Jesus' or 'infant Jesus'. This shrine preserves the classical three-storeyed façade, the top storey being purely ornamental in appearance and adorned with elliptical windows. This church is also laterite, its exterior excepting the façade, was lime plastered which was subsequently removed. The roof was originally tiled. Within the church are two chapels, a main altar and a sacristy besides a choir at the entrance. The church is 55.77m long, 16.76m wide and 18.59m high. While the façade has the classical orders of the Renaissance, the altars are in baroque style.

The *Church and Convent of St. Francis of Assisi* known as the Holy Spirit Church was built in the second half of the 17th century. Here the ribbed half-barrel-vault is embellished with interlacing arches and square panels. The majestic simplicity of the high arches is adorned with the baroque luxuriance of flowers, leaves, designs and figures. The exterior is in Tuscan style with two octagonal towers in the Manueline style and the altar in baroque with Corinthian features. The vault and internal buttress walls have frescoes of intricate floral designs painted in hybrid style using Indian and European elements. The wooden pulpit has floral reliefs very much in keeping with Francis of Assisi’s love for nature. On either side of the high altar and in the choir are large paintings from the life of Francis of Assisi and Franciscan saints.

UNESCO collectively declared the Churches and Convents of Goa as a World Heritage Site in 1986.

Further reading at Nehru Centre Library:

- Old Goa by S. Rajagopalan; Archaeological Survey of India, New Delhi, 1975. Call No. 915.403/Raj. Barcode- 3040
NEHRU CENTRE PUBLICATIONS

Books for Sale

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New Arrivals: Books

Sr. No. Title Author/s
1. Beyond the water Prabodh Kumar Govil
2. India and the world: A history in nine stories Neil MacGregor
3. Who blunders and how: The dumb side of the corporate world Robin Banerjee
4. How to get published in India: Your go-to guide to write, publish and sell your books with tips and insights from industry experts Meghna Pant
5. Academic mothers in the developing world: Stories from India, Brazil and South Africa Venitha Pillay and others
6. Staying up, up, up in a down, down world Zig Ziglar
7. The secret Rhonda Byrne
8. Drought but why?: How India can fight the scourge by abandoning drought relief Sunita Narain
9. Mother Teresa: A unique relationship Navin Chawla
10. भारतीय अङ्गूरत नायक : राकेश शर्मा Deepak Sharma