

Vol. 22 Issue 2 FEBRUARY 2021

Price Rs. 10/- Per Copy



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Website: www.nehru-centre.org

Annual Subscription Rs. 100



S. M. CHITRE

The Chairman, Nehru Centre, members of the Executive Committee and the entire staff of the Centre are deeply grieved at the passing away of Professor S. M. Chitre on 11th January 2021. He had been associated with Nehru Centre, particularly the Planetarium, from the very beginning, charting and guiding its growth at every stage. His wise counsel and intellectual stimulation would be greatly missed.

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 will resume from February 2021 and we shall announce 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 Kashmir Saved

In the monthly newsletter of October 2020, a short write up described the 'Creation of Armed Forces in a New Nation'. In that piece there was a mention of some of the feats of independent India's armed forces. With this issue, we begin a new series 'Indian Armed Forces: In Service of the Country.'

Within months of becoming independent, India faced an armed challenge in the north. The princely state of Jammu and Kashmir was contiguous both to India and Pakistan, the two sovereign countries that had come into being. According to the policy of accession, the ruler had to decide which Dominion, depending upon geographical location and the composition of population, to accede to. Kashmir was a state with predominantly Muslim population ruled by a Hindu Maharaja who was not able to make up his mind. Becoming impatient with the Maharaja's indecision, Pakistan decided to take over the State of Jammu and Kashmir by force and invaded it on 22nd October 1947. About 5000 frontier tribesmen in approximately 300 lorries advanced from Abbottabad in North West Frontier Province. They were

accompanied by soldiers of Pakistan Army who were supposedly 'on leave'. They soon arrived at the gates of Muzaffarabad and marched towards Baramulla along the road leading to Srinagar, their next destination being Uri.

The Chief of Staff of the State Forces engaged the raiders with a very small force and held them for two days and then, being completely outnumbered, went down fighting. The State Force destroyed the Uri bridge before their final sacrifice and thus delayed the advance of the invaders. After beating the resistance, the raiders moved on and on 24th October captured the Mahura Power House, plunging Srinagar into darkness.

The same evening, the Maharaja sought help from the Government of India. Since the State of Jammu and Kashmir had not acceded to either India or Pakistan till then, sending of Indian troops to Kashmir was not considered proper. An emissary was sent to the Maharaja to convey India's reservation. The Maharaja expressed readiness to accede to India and signed the Instrument of Accession. Accepting the accession of Jammu and Kashmir, India decided to send an infantry battalion to Srinagar next morning by air. In his book Integration of the Indian States, V. P. Menon writes: "Never in the history of warfare has there been an operation like the airlift of Indian troops to Srinagar on 27th October and on subsequent days, an operation put through with no previous thought, let alone organized planning, and at such remarkably short notice. In the early hours of the morning of 27th October, over a hundred civilian aircraft and RIAF planes were mobilized to fly troops, equipment and supplies to Srinagar. The RIAF and civilian pilots and ground crew rose to the occasion and worked heroically to make the airlift a success."

The first to land at Srinagar was a Sikh battalion which immediately secured the airfield. The commanding officer of the battalion Lt. Col. Ranjit Rai learnt that the raiders were at Baramulla. He decided to stop them there before they could enter the plains of Srinagar. He advanced towards Baramulla to engage the raiders in battle and soon realized the enemy was numerically much superior. He, therefore withdrew to the heights of Pattan, 17 miles from Srinagar. This tactical withdrawal checked the advance of the raiders to Srinagar but the gallant commander got killed in the process.



Dakotas of 12 Squadron evacuating civilians from besieged Poonch

By now it was clear that additional forces would be required to save Srinagar. Consequently 161 Brigade was reinforced and by 31st October its four battalions were deployed around Srinagar. Brigadier L. P. Sen was appointed the brigade commander. It was 161 Brigade which on 7th November 1947 drove the raiders beyond Baramulla in the battle of Shalateng 15 miles west of Srinagar.

During the ground operations of 161 Brigade it was Squadron 7 of the Royal Indian Air Force with Tempest fighters operating from Jammu, and a handful of spitfires from Srinagar which provided excellent close air support. Arjun Subramaniam in his book *India's Wars* writes about air operations thus: "The aircraft would get airborne from Jammu; fly almost 300 km over the Pir Panjal range before getting down into the Kashmir valley and operate over the battle area. Often braving bad weather they would take on either immediate targets based on the requirements of the ground troops, or carry out search and strike missions. The two squadrons together flew fifty to sixty sorties or 100 to 120 hours in the Srinagar sector during the critical phase of battle between 28th October and 13th November 1947. By 14th November, the rout was complete and the raiders were in complete disarray as they retreated."

The valour, daring and total commitment of the Indian Army and the Indian Air Force saved Kashmir from the rapacious raiders.

Further reading:

 Integration of the Indian States by V. P. Menon
 India's Wars: A military history, 1947-1991 by Arjun Subramaniam

What Nehru said....

The incidents in Kashmir have a great lesson for people swayed by communal passions. In Kashmir people of all communities are fighting against the foreign aggressor because they know that their beautiful land will otherwise be destroyed by the raiders. They stand united in their determination to defend their country. One slogan which has knit them together and given them strength is that of 'Hindu-Muslim-Sikh Unity.'

.... Speech delivered at Delhi, 6 November 1947.



Intrinsically variable stars

In the last three issues of our monthly newsletter, we discussed the discovery of variable stars and the importance of their observations. We read about stars whose brightness change due to external factors like one star eclipsing the other or internal changes taking place in them. We discussed in detail the Cepheid variables in last month's issue.

Soon after the discovery of Cepheids, astronomers discovered that there are other stars whose light curve, though similar to Cepheids, are distinctly different from them. The prototype of these stars was a star in the constellation Lyra, designated as RR.

RR Lyrae stars

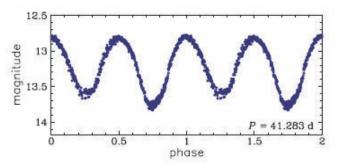
R R Lyrae stars are seen in clusters called globular clusters. Their study revealed that these clusters are uniformly distributed above or below the plane of the Milky Way Galaxy as is the case with Cepheids.



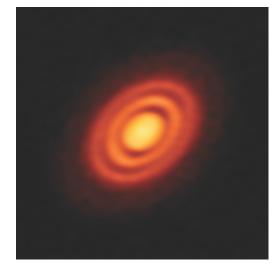
Globular cluster

RV Tauri stars

In 1907 Russian astronomer Lydia Ceraski discovered that a star designated as RV in the constellation of Taurus is a variable star and its brightness keeps changing continuously. The star reaches the same higher brightness level, called maxima, but has two alternating minima, one minimum slightly fainter than the other, as shown in the figure below



It has been found that these stars have a large amount of material orbiting them in the form of a disk. Such disks are called circumstellar disks and are formed in binary stars.



Circumstellar disks

Cataclysmic or Explosive Variable stars

Ordinarly these stars cannot be seen even through a large telescope. At times, however, they become so bright that they are visible to the naked eye. These stars come under the general classification of 'novae' or new (stars)

Novae or recurrent novae stars

These are actually close binary stars. Here repeated explosions take place on the surface of the star. But the star itself is not destroyed as in the case of supernovae.

Dwarf novae

These are a class of stars that go through a mechanism similar to those in novae or recurrent novae stars but these are small white dwarf types of stars.

Another interesting class of exploding stars are the symbiotic binary stars or just symbiotic stars. In this case, too, there are two stars - one are the cool red giant stars and the other are the hot blue smaller stars, which are surrounded by a cloud of gas and dust. In this case material from the red giant star flows to its hot blue companion. As the material flows, it does not fall immediately on the companion but rotates around the star forming a disk, called an accretion disk. These stars are of great importance to astronomers as they can learn about stellar evolution.

Mira class of variable stars

Mira (pronounced as Myra) in the constellation of Cetus are one of the earliest known variable stars. The star itself is a long period pulsating variable star. The brightness of Mira changes over a period of 331 days. About 7000 stars of this type are catalogued. The brightness of these stars changes from about 80 to 1000 days.

There are also semi-regular and irregular variable stars and because of their irregular variation, these stars have not been studied in detail.

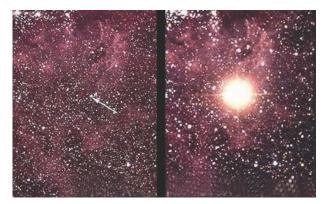


Mira, the prototype of the Mira variables

Supernovae

Lastly there are exploding stars called supernovae. This is a most dramatic phase in the life of a star. These stars become 100 million times brighter and outshine the entire galaxy at the peak of their brightness. They discard a lot of material in the neighbouring space which can trigger the formation of a new star. The remaining material of the star can then form a very dense star called a neutron star, a pulsar or even become a black hole.

It has been theoretically calculated that when a star explodes as a supernova, it reaches certain maximum brightness. Therefore, observations of supernovae give a good indication of the distance to that star and therefore the galaxy to which it belongs.



1987 A supernova in Large Magellanic Cloud, a satellite galaxy of the Milky Way. A star marked by an arrow exploded outshining the entire galaxy

Endnote

Our own star the Sun, is also a variable star; its energy output varies by approximately 0.1 per cent, or onethousandth of its magnitude, over an 11-year solar cycle.

INDIAN CLASSICAL DANCE: MOHINIYATTAM

Mohiniyattam, Kerala's graceful dance form is rich with tradition, myth and legend. It is a manifestation of Vishnu who had assumed a feminine form. As one story goes, it happened first when the milky ocean was churned by the devas and asuras. When *amrit*, the elixir, emerged, the latter attempted to snatch it. However, Vishnu came to the rescue in the form of Mohini, a seductress, and cast a spell on the *asuras*. Stunned by her alluring charm the *asuras* lost their senses and the *devas* carried away the elixir.

Mohiniyattam is primarily a solo dance performed by women. In the late 18th century Kartika Thirunal, the Maharaja of Travancore who was a great scholar and patron of Kathakali and other art forms, engaged court musicians to pick up the threads of the dance forms existing in different corners of the region to revive them. This marked the beginning of the resurgence of Mohiniyattam, which gained full momentum during the time of Thirunal's successor Maharaja Swati Thirunal, the illustrious composer and patron of fine arts. He engaged his court dancers and Nattuvanars (the teachers who played the cymbals) to embellish the existing style of Mohiniyattam with suitable *lasya* (graceful) elements from Kathakali, Kaikottikali and other popular performing arts of Kerala.





Mohiniyattam is for the most part *nritta* although *abhinaya* is by no means absent. Its music is Carnatic and the language of its songs is Malayalam. Stories such as those from the Gita Govinda are danced in Mohiniyattam. All these are exquisitely conveyed through gestures of the eyes and hands, expressions of the face, and poses of the body.

The costume is a white sari with traditional border worn with a plain choli. The hair is

gathered into a large smooth chignon on top of the head on one side. This is decorated with a *veni* of jasmine or a traditional hair ornament. Jewellery of the traditional kind worn in Malabar adorns the ears, neck, wrists and fingers. A girdle of gold emphasizes the waist. The make-up is natural but highlights the eyes and lips. Ankle-bells are an indispensable part of the costume.

Bharati Shivaji's fine rendition of Mohiniyattam at the Edinburgh Festival in 2002 brought this style to the attention of an international audience.

Programme for February 2021

DR. PRITAM PATHARE

The Art Gallery



A surgeon by profession, he has always had an affinity for art. He expresses his love of art on canvas by experimenting with various mediums and subjects.

He will donate all the proceeds from this exhibition to Vasundhara Trust for health, farming and childrens' education.

> Tuesday, 2nd February 2021 to Monday, 8th February 2021 (AC Gallery)

D. G. Kulkarni (DIZI)

GOPAL SWAMI KHETANCHI

Open from 11.00 a.m. to 7.00 p.m.



The artist has a degree in drawing and painting from Jaipur. He has worked as Assistant Director for many films and as illustrator for Rajasthan Patrika.

He will display portraits of Rajasthani women and their intricate costumes and jewellery.

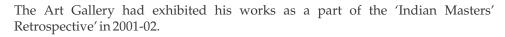
Tuesday, 16th February 2021 to Monday, 22nd February 2021 (AC Gallery)

Indian Masters' Retrospective

D G Kulkarni popularly known as 'Dizi' was an Indian painter, cartoonist and sculptor. He was born in Shedbal village in Karnataka in 1921. Dizi completed his schooling in the village but made Mumbai his home from the time he joined the J. J. School of Arts in 1939. The surging tide of nationalism made him participate in the Quit India movement in 1942. His patriotic fervour earned him a prison sentence, serious injuries and a lifelong limp.

Although he was a contemporary of the Progressive Group of artists, yet he was a rebel with his own independent style. For several years he worked as a political cartoonist for a daily. He strived at impressing society with restrained humour as his cartoons were neither hilarious nor filled with ridicule and contempt. Dizi was one of the first to depict the Common Man in the print media through his pocket cartoons called *Shriyut* in the Free Press Journal.

Dizi passed away in Mumbai on 16 November 1992 at the age of 71 years. He had exhibited his works in major cities of India, received wonderful press reviews in several languages and won praise, acclaim and numerous awards.







Nehru Centre Newsletter - February 2021

UNESCO World Heritage Sites in India

17. Historic City of Ahmedabad

The historic walled city of Ahmedabad was founded by Sultan Ahmed Shah in 1411. It remained the capital of the Gujarat Sultanate and an important political and commercial centre. Jama Masjid was in the centre with commercial areas in a big open circle around it with the Badhra Fort protecting it. The city grew organically and was walled in the 1480s by Sultan Mahmud Begada. It continued to flourish in the 15th and 16th centuries when the Sultans encouraged merchants and craftsmen. Majestic mosques were built during the reign of Ahmed Shah. Mausoleum complexes and the Kankaria Lake with its carved embankments were later constructed by his successors.



Badhra Fort

The Mughals added their own measure of grand style after Akbar's conquest of Gujarat in the 1570s. They built impressive monuments such as the garden palace of Shahibag (built by Shah Jehan) and governor Azam Khan's palace which adjoined Ahmed Shah's Badhra Fort. Square in form, enclosing an area of about forty-three acres, the Badhra fort had eight gates.



Jama Masjid

A unique feature of the city is its *pols*, which are old residential quarters, comprising narrow lanes shaded by two and threestorey houses that line them. The pols are micro-neighbourhoods with houses, public areas and bird-feeding structures called *chabutras*. Many of the *pols* have mansions called *havelis*, with courtyards and ventilation outlets to allow a good airflow through the residential areas, clustered together to keep their interiors free of extreme heat and direct sunlight. The *Lakha Patel ni Pol* has a number of exquisite *havelis* with ornately carved wooden facades, balconies, brackets and latticework.

Jama Masjid, built during 1423-4, has a large marble-paved courtyard with a pool in the centre. The mosque has a *zanana*, a latticework gallery for women, rising on beams. To the east, one can see the Teen Darwaza, a triple archway with fine pointed arches and calligraphy. Towards the western gate of Ahmedabad is the 16th century Sidi Syed Mosque which is noteworthy for its intricate windows of fine tracery work called *jalis* in Gujarati. The 'tree-of-life' screen depicting a branching tree in fine latticework detail is especially noteworthy. This filigree pattern is often depicted as the symbol of Ahmedabad.

Ahmedabad lost its glory after the Marathas grew to become a major power during the 1700s. This was a period of turmoil in the city due to the tussle between the Peshwas and the Gaekwads. By the 19th century, the British brought stability to Ahmedabad and the city began to develop with schools, colleges and markets.



'Tree-of-life' in fine latticework detail in Sidi Syed Mosque

UNESCO declared the Historic City of Ahmedabad as a world heritage site in 2017.

Further reading at Nehru Centre Library:

- Ahmedabad: a city in the world *by* Amrita Shah; Bloomsbury, London, 2015. Call no. 915.475/Sha. Barcode-16545
- Ahmedabad: shock city of twentieth-century India *by* Howard Spodek; Orient Blackswan Pvt. Ltd., New Delhi, 2012. Call no. 915.475/Spo. Barcode-15409

Date of Publication: 18th of every month

MCW / 114 / 2021-23

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Nehru Centre Newsletter - February 2021



New Arrivals: Books

Sr. No. Title		Author/s
1.	The beauty and the sorrow: An intimate history of the first World War	Peter Englund
2.	Histories of nations: How their identities were forged	Peter Furtado
3.	Subhas and Sarat : An intimate memoir of the Bose brothers	Sisir Kumar Bose
4.	The great theft: Wrestling Islam from the extremists	Khaled Abou El Fadl
5.	Dangerous minds: Eight riveting profiles of homegrown terrorists	
6.	Indian constitution: Conflicts and controversies	Subhash C. Kashyap
7.	The Hindu way: An introduction to Hinduism	n Shashi Tharoor
8.	Fire and fury : Transforming Inc strategic identity	dia's Anil Kakodkar and Suresh Gangotra
9.	The Polaks and Mahatma Gand A unique relationship	hi: Prabha Ravi Shankar
10.	India's wars: A military history 1947-1971	Arjun Subramaniam
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