power. He was born in Sambhal in Rohilkhand in 1767 and started as a

leader with ten men. By 1814, he commanded 30,000 horse and foot

and a well-run train of artillery.

Nineteenth-century inventories

give the origin of guns, showing

that at that date, the Rajputs made

gun barrels and also imported them,

but these are generally hunting

guns. A distinction needs to be made

between the needs of the aristocra-

cy, the mercenary, and the peasant,

who sought cheap guns to defend his

mud-walled village from marauding

Pindaris, Marathas, dacoits, wild

animals, rapacious landlords and

necessity to adopt new technology

because from 1818, the British were

treaty-bound to protect the Raiput

states. Raiputs acquired European

hunting guns if they had good con-

tacts but paintings rarely show

maharajas using them and they were

rare until the 1840s. One

sees relatively few in the

state armouries until the

nineteenth-century military

examples come into use.

Sometimes, one finds whole

rooms of racked nineteenth

century British military weapons in forts, as though a reg-

iment had handed in their arms

and marched away. From the Indian

point of view, the complex flintlock

mechanism had to be kept clean.

lubricated and was hard to repair.

The matchlock had few moving

parts, was cheap to produce, easy to

naintain and repair and used as a

locally grown match. Gun flint is not

found in India and had to be import-

ed from Europe. Agates, used as a

substitute, were extremely hard and

damaged the frizzen. A variety of

sizes was required and these needed

reversing in the jaw of the cock

when they became worn after a

small number of shots, usually using

a knife edge as a screwdriver. The

flintlock was an unreliable weapon.

It is suggested that even in good

weather, it misfired 15 per cent of the

time, and in damp or wet weather,

the rate rose significantly. European

flintlock mechanisms were not used

to upgrade Rajput matchlocks. This

the Sindhis when given European

guns as presents, usually discarded

all but the English lock they fitted to

their jezails. Sometimes, they copied

these. Sindhi lockplates spuriously

signed Parker after the noted

London maker being particularly

common. In this, they were possibly

influenced by Persian attitudes to

Western guns, Persian metalworkers

being technically competent and

happy to copy Western gunlocks in the nineteenth century. Iqtidar Alam

Khan wrote that 'the inability of the

Indians to copy cast-iron cannon and

adopt more efficient flintlocks as

standard military muskets were per-

haps the two most conspicuous fail-

ures in the field of firearms during

Concluded.

s surprising since their neighbours,

The Rajputs had no military

राष्ट्रदुत

Devil's Apple

Potatoes, From the Prison Cell to Europe's Salvation!



a household staple, the potato viewed with deep suspicion across Europe. When it first arrived from the Americas in the 16th century, its underground growth and strange appearance made it seem unnatural, almost sinister. Its relation to toxic nightshades like belladonna only deepened fears. Rumors spread that it caused leprosy, madness, or moral corruptior In religious circles, some even



centuries, the humble tuber was rejected by farmers, shunned by nobles, and feared

nter Antoine-Augustin Parmentier, a French army pharmacist. Captured during the Seven Years' War and held prisoner by the Prussians, he was fed almost exclusively on potatoes during his captivity. Far from suffering ill health, Parmentier remained surprisingly wellnourished. When he returned to France in 1763, he set out on a one-man campaign to change public perception of the potato. Armed with scientific studies, public outreach. and savvy publicity stunts, he turned the once-feared tuber into a symbol of nourish-

The Rising: Potato's Breakthrough in Europe

urope in the 18th century was no stranger to hunger. Famines were frequent, France alone suffered forty nationwide famines between 1500 and 1800, and England faced seventeen major ones between 1523 and 1623. Parmentier's advocacy proved pivotal. He convinced the Paris Faculty of Medicine that potatoes were safe to eat as early as 1772. He hosted lav-

ish dinners centering on pota-

toes, persuaded royalty like Louis XVI and Marie Antoinette to wear potato blossoms in public, and even staged potato fields just outthat hungry citizens would steal the crop, thereby spread-

Prussia, under Frederick the Great, had earlier mandated potato planting during famine to provide food security.

from Ireland to Russia, help

ing blunt the worst effects of

famine, and ultimately pre-

venting repeated mass star

vation. Economists like

Adam Smith recognized the

potato's power to increase

population: a staple crop

capable of feeding more peo-

ng Hope: The Potato's Role in Ending Fam

The impact was seismic. ■ Farmers could plant potatoes on otherwise fallow land, doubling available calories per acre compared to grain. This innovation dramatically bolstered food secu-

By the late 18th century, the potato had become a dietary staple in countries

ple per acre enabled Europe's demographic boom. **Legacy: From Distrusted Tuber to Lifesaver** ntoine Parmentier's European diet, agriculture

A experience as a prisoner turned into a beacon of reform. By championing a maligned crop born of 'devil's

and even demography. His efforts turned the 'Devil's Apple' into the backbone of earth,' he helped transform Europe's food landscape.

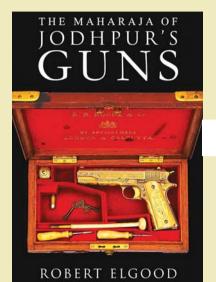
Conclusion

he journey of the potato, I from a feared, 'devilish' root to a celebrated famine fighter, embodies transformation. Through Parmentier's determination, a rejected tuber

gained respect and became a cornerstone in European survival and progress. What began in the darkness of a prison cell sprouted hope across a continent.



The Gun Gave Out At Wrong Times And The Bow Was Sacred century, Lahore also continued making matchlocks, popular in Nawab of Tonk in 1806, a good example of a mercenary's rise to



Senior Journalist &

Wildlife Enthusiast

he nineteenth-century

writer Irvine argued

that in India, until the

mid-eighteenth century,

the bow was considered

a far more reliable

weapon than firearms.

Too much credence in

the apparent technical

superiority of the

Chittor.

matchlock over the bow has encour-

aged the assumption that firearms

were swiftly adopted. True that it

was easier to train a matchlock man

than a bowman, but the theoretical

advantages of the gun was often

negated on the battlefield by it not

working or poor powder or a short-

age of bullets, all very common in

India, when responsibility was indi-

vidual, until the development of a

competent commissariat and a con-

scientious and honest supervisory

structure. This applies to Indians

and Europeans. There are accounts

of small units of British soldiers

being hastily sent up-country in

1857 with half their muskets defec-

tive or lacking flint, powder or shot.

probably admit the use of guns as a

necessary evil but favour the bow

until the mid-eighteenth century

The Rajputs are conservative people

and the bow won approval because

it was used by familiar heroes in

classic literature. Bhishma,

'Terrible,' a prominent warrior in

the Mahabharata, displays Rajput

virtues as a man of courage, hon-

our, lovalty and chivalrous behav-

iour, which all warriors would be

taught since childhood to emulate.

The Rajput view on this would

The British, at that time, thought the bow was archaic but Indians took a different view and it was commonly included among the weapons in the howdah of princes out hunting until very late in the nineteenth century, for use as well as the

symbol of a gentleman. James Tod, who knew the people well, wrote in 1830: "The Rajput who still curses those vile guns which render of comparative little value the lance of many a gallant soldier, and he still prefers falling with dignity from his steed to descending to an equality with his mercenary antagonists."

sun started its northern course

because Rajputs believed that the

passage to warrior heaven is easier

concept, changes its meaning over

expressed in a single word but

'order,' 'model,' 'custom,' 'duty' and

'law' have been used concerning it.

Hinduism personifies dharma as a

deified Rishi (enlightened person)

personifying goodness and duty. His

son is Yudhishthira, 'firm in battle.'

Dharma expresses the obligation of

correct behaviour in all aspects of

daily life integrated with religious

duties so that individual responsi-

bilities and cosmic order can har-

moniously align. Rajput dharma

adds to this philosophical concept a

unique social and religious code of

its own that is the core of group

rigidly shared sanctified rules

declaimed by court poets (Charans)

and enforced by group pressure that

gloried in and maintained tradition.

Rajput dharma created an exclu-

sive, tightly united, conservative

group that was unsympathetic to

bow was a part of Rajput dharma

and that warriors should practise

with it every day, either hunting, or

shooting at a baked earth target. It

took years of practice to become a

good archer. The bow in question

was not the great self bows used by

the indigenous peoples, that are

depicted in the hands of many of

India's warrior gods. It was the

kaman turki, chahar kham (four

curved) recurved bow, used in

Central Asia from the third millen-

nium BC that came to India at the

time of the Scythian invasions.

Made of horn, sinew and wood,

painted and lacquered to make the

The Rajputs were taught that the

the use of guns.

Individual Raiputs acknowledge

identity and behaviour patterns.

the centuries and cannot be

In Hinduism, dharma, a Vedic

during this period.

he Raiput view on this would probably admit the use of guns as a necessary

evil but favour the bow until the mid-eighteenth century. The Rajputs are

conservative people and the bow won approval because it was used by familiar

heroes in classic literature. Bhishma, 'Terrible,' a prominent warrior in the

Mahabharata, displays Rajput virtues as a man of courage, honour, loyalty...

The Rathores deliberately sought

death in battle as a sacrifice to the

Goddess and Bhishma was glorious-

ly pierced by so many arrows in bat-

tle that he fell from his chariot. His

dying body was held off the ground

hy the arrow shafts protruding from

his body. Lying on this couch of

arrows, he managed to delay his

death for fifty-eight days until the



A CONTRACTOR OF THE PARTY OF TH

#THE INDIAN MATCHLOCK

bow waterproof and attractive, such

bows, the work of skilled craftsmen.

were vulnerable to the climate and

often had to be replaced. For

Rajputs and Muslims, the bow was a

burnish their kshatriya credentials,

noted this and sometimes used the

bow and quiver in their accession

ceremonies. Guru Har Gobind, the

sixth Sikh Guru, put on a guiver and

held a bow in his ceremony in 1606.

The same recurved bow was used by

ndian Muslims. The Prophet, him-

self an archer, had urged the faithful

to practise with the bow, so, for

Muslims archery was a spiritual

exercise. For these reasons, the bow

remained popular. Irvine heard stories of British troops killed with

arrows in the Mutiny. The British, at

that time, thought the bow was

archaic but Indians took a different

view and it was commonly included

among the weapons in the howdah of

princes out hunting until very late in

the nineteenth century for use as

well as the symbol of a gentleman.

James Tod, who knew the people

well, wrote in 1830: "The Rajput who

still curses those vile guns which

render of comparative little value

the lance of many a gallant soldier,

and he still prefers falling with dig-

New Indian dynasties, seeking to

Rajasthan and, 'like the locally proof-pearl and gold, those of Bundi are the best.' Tod noted that matchlocks, swords and other arms were manufactured at Pali and Jodhpur. Egerton, an experienced arms collector in India from 1858, reports that Kotah and Bundi made famous matchlocks. This probably reflects

the arms market created by Kotah's prime minister, Zalim Singh, who in the latter part of the eighteenth century, hired large numbers of merce the Marathas. These troops included two brigades led by Firangis, who had become Indian in all but name, brigades of Dadhu Panthi Naga ascetics, individual Marathas and a great many Pathans. In the late eighteenth century, many Pathans were in Rohilla service in the Rampur region, but after the British helped the Nawab of Oudh to defeat the Rohillas in 1774, there was a general reshaping of north Indian military employment and the Pathans moved west of the Ganges and found employment in Kotah, Jodhpur, and indeed, all the Rajput





he matchlock had few moving parts, was cheap to produce, easy to maintain and repair and used as a locally grown match. Gun flint is not ound in India and had to be imported from Europe. Agates, used as a substitute, were extremely hard and damaged the frizzen. A variety of sizes was required and these needed reversing in the jaw of the cock.

with Sangster's flintlocks. He eventually created five arsenals run by daroghas, at Mathura, Delhi Gwalior, Kalpi and Gohad. Indian troops used their flintlocks in idiosyncratic ways as Fitzclarence noted in 1817:

but they also recruited Kolis and

Bhils armed with matchlocks as

George Sangster, was employed by

the mercenary General de Boigne to

Sangster, who had trained as a gun-

founder and manufacturer before

coming to India, cast excellent can

the European models for ten rupees

European mercenaries to equip

their troops with arms and ammu

Naiibs, Pathans, Rohillas and high

caste Hindus and these gave up

their matchlocks and were equipped

nition. De Boigne's camp included

It was customary for

non and made muskets as good as

create an arsenal at Agra in 1790.

A Scottish mercenary, Colonel

auxiliary troops.

"As we approached... I was thrown upon the qui vive by the flash of a gun or pistol in that direction; but, from no report reaching me. I was convinced it had originat ed in that most unsoldierly trick so common among the native cavalry of India, of flashing in the pan of their pistols to light their pipe."

nity from his steed to descending to an equality with his mercenary In 1796, a European observer noted that the matchlocks of the The transition from matchlock irregular infantry at Oudh 'carried to flintlock in the eighteenth centufurther and infinitely truer than the firelocks (flintlocks) of those days.' ry was gradual and largely due to European military commanders Fitzclarence in 1818 wrote that appointed by Indian rulers. The ...the matchlock is the weapon of eighteenth-century European wars this country" and "the flintlock... is between the British and French far from being general, and I may were also fought in India where even say is never employed by the defeat resulted in disbanded French natives, though the Terlinga, armed soldiers seeking employment, trainand disciplined after our manner, in ing and equipping local armies in the service of Scindiah and Holkar, the European manner. The Maratha make use of it. Some good flintlocks sardar's 'regular' infantry were are, however, made at Lahore. increasingly armed with flintlocks, However, in the early nineteenth

states. These troops brought their arms with them but needed the support bazaar gave them until Zalim Khan, probably acting with the advice of French officers, introduced central control on all aspects including equipment, towards the end of the eighteenth century.

the seventeenth century.' The Pushtun Amir Khan, deeply involved in Raiput affairs, ended as



#FROM STING TO CURE

Honeybee Venom Defeats Breast Cancer

Melittin's ability to destroy aggressive cancer cells selectively means it could be developed into a powerful new treatment

development, scientists have discovered that honeybee venom. specifically a powerful compound melittin, can destroy aggressive breast cancer cells in laboratory tests. This fascinating finding opens up new avenues for cancer research and potential therapies targeting one of the most challenging forms of breast cancer.





relittin is the main active component of honeybee venom, making up about 50% of its dry weight It is a small peptide known for its potent anti-inflammatory, antibacterial, and antivi-

esearchers conducted

N laboratory experiments

exposing aggressive triple-

negative breast cancer cells

(TNBC), a subtype known for

its resistance to many conven-

tional treatments, to melitting

The results were promising.

Melittin was able to pene-

• It induced cell death

trate the cancer cells

membranes and disrupt

cles to deliver melittin directly has revealed its ability to attack cancer cells. to tumor sites, minimizing side The Science Behind the Discovery Clinical Trials: Extensive

testing in animals and humans (apoptosis) by interfering is necessary to confirm safety with the cancer cells' abil and effectiveness. ity to reproduce. Despite these hurdles, the

The compound specifical discovery marks an important ly targeted aggressive canstep forward in cancer research cer cells, leaving healthy



Challenges and Future

W hile the laboratory results are exciting, translating

them into practical treatments

Toxicity: Honeybee venom

is toxic and can cause severe

allergic reactions. Scientists

need to develop delivery meth-

ods that harness melittin's can-

cer-killing power without harm-

Researchers are working on

nanoparticles and other vehi

Delivery

Directions

faces challenges.

ing patients.

Targeted

Why is This Important?

their integrity

cer is among the most difficult breast cancers to treat. It lacks the three receptors (estrogen, progesterone, and HER2) that many common breast cancer therapies target, making standard hormone treatments ineffective.

TNBC cells is a top priority in oncology. Melittin's ability to destroy these cells selectively means it could be developed into a powerful new treat ment, potentially improving survival rates for patients with aggressive breast cancer.

its role in treating arthritis

and other inflammatory con-

ditions, but recent research

cells mostly unharmed.

• This specificity is crucial

because one of the biggest

challenges in cancer treat

ment is destroying tumor

cells without damaging

healthy tissue.





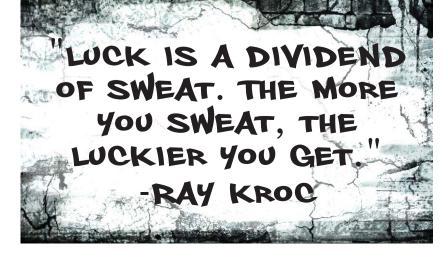
Nature's Medicine

This discovery underscores the incredible potential of natural compounds in medicine. Honeyhees often celebrated for their role in pollination and honey production, might also hold keys to future cancer therapies. As researchers continue to explore bioactive substances from nature, melittin stands out as a promising candidate for next-generation cancer treat-

The ability of honeybee venom, and specifically melittin, to destroy aggressive breast cancer cells in the lab offers hope for developing new, target ed cancer therapies. While fur ther research is required before it becomes a mainstream treat ment, this natural compound could revolutionize the way we approach difficult cancers like triple-negative breast cancer. In the quest to defeat cancer,

tures provide the biggest break-

THE WALL



BABY BLUES







By Rick Kirkman & Jerry Scott







By Jerry Scott & Jim Borgman