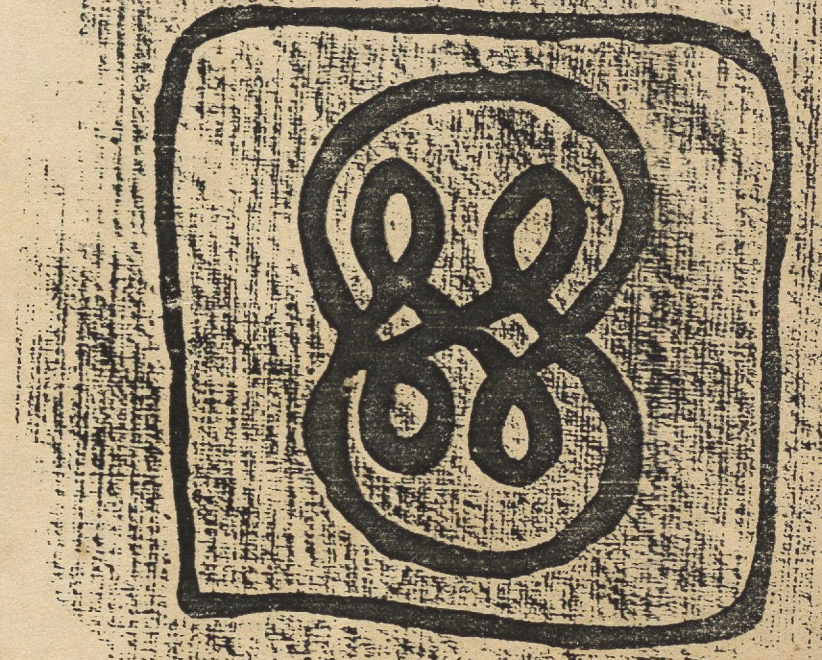


भारत की छाप
BHĀRAT KI CHHĀP
EPISODE 10
COLONIALISM & THE
INDUSTRIAL REVOLUTION
1800 TO 1900



A film series on the history of science and technology on the Indian subcontinent in thirteen episodes of fifty minutes each.

Presented by the National Council for Science and Technology Communication, Govt. of India.

Produced by Comet Project.

Translated and annotated by SMRITI NEVATIA

1st Edition - May '91.

NOTES FOR ALL DUBBED LANGUAGE VERSION TEXT WRITERS

1. Whenever our reporters meet real experts or local people who talk in Hindi or any other language, we will not dub such conversations. We will keep the original sync. dialogue, but the dubbing artist for the reporter concerned will have to give a voiceover translating. An attempt must be made to keep these transactions a little shorter than the original, so that the actual words/voices in sync. get established at the beginning and again at the end, each time they speak. In the English guide translations such passages have already been written as necessary for voiceover.
2. Dubbing artists must be found whose voices match the original actors' voices as closely as possible, especially because in some places we are keeping the original Hindi sync. dialogues as a track along with voiceover.
3. At our discretion, we have made certain exceptions to point no. 1 above, in the interest of the total impact. For example, the Episode Two we are dubbing the guide in Bhimbaitka caves; in Episode Five we are dubbing the expert who shows Shehnaaz, our reporter, around Kanheri caves. Each episode has its specific instructions about dubbing. So please refer constantly to those.
4. Whenever a voiceover by the reporter or anchorpeople is superimposed on live (sync.) dialogue also spoken by themselves, this live (sync.) dialogue should also be dubbed in the language of each version, because some of it will be heard clearly on the final sound track. The Hindi transcripts and translations of all such dialogue are in the 'APPENDIX A' of each episode.
5. Whenever a word is used in Hindi and English, do the same (Bengali and English, Tamil and English, etc) but where only English has been used it is because the Hindi term may be too uncommon/difficult-in such cases use the English term or translate it, if there is a commonly understood equivalent in the language concerned.
6. Wherever we talk of "humans" or "the human race", do not say "men" but keep it general i.e. avoid a sex bias.
7. Translators knowing Hindi well should, of course, work from the Hindi text but in the English translation we have made improvements and additions sometimes. So the English translation must be referred to always.
8. Wherever there are title cards/written matter, these will be replaced by text in the languages of dubbing. Translators must give written matter for all such titles to artists doing fresh title cards. These are marked by ' - - - 'arrows in the scripts'.
9. All 'internal monologues/dialogues' indicated in the script, must be written and spoken so that they seem like thoughts, not like commentary or normal conversation.

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
→1.	000	00	Presented by	Presented by	प्रस्तुतकर्ता		Fade in
→2.			National Council for Science and Technology Communication Department of Science & Technology	National Council for Science and Technology Communication Department of Science & Technology	राष्ट्रीय विज्ञान एवं प्रौद्योगिकी संचार परिषद् विज्ञान और प्रौद्योगिकी विभाग		
→3.			BHARAT KI CHHAP	BHARAT KI CHHAP	भारत की छाप		
4.			A line of seals. In a series of 7 dissolves, camera slowly zooms in on centremost seal - depicting a train - the title graphic of this episode.				Fade out
5.	020	26	Sir Charles Doily's engraving of 'Custom-House Wharf', Calcutta.				Fade in Ship's horn
6.	025	19	Sir Charles Doily's engraving of 'Town and Port of Calcutta'. Camera pans right across it.	Nissim (voiceover): For more than two centuries, trading ships—	निस्तिम:- दो सदियों से भी ज्यादा समय से फिरंगी जहाज़ -		Dogs
7.	032	11	MCU a line of paintings on wall. Camera tracks and pans right over them to MS Nissim. He turns and walks right. Camera follows him to MS Maitreyi at table. Nissim exits right.	Nissim (sync): British, French, Portuguese, Spanish, Dutch were sailing all over the world. Trade was a common thread/link binding the whole world together. Now the question was of establishing one's empire over the whole world, and by the end of the 18th century it was clear that either England would triumph, or France. Maitreyi: Initially it appeared as if these trading companies were voyaging only for profit.	निस्तिम:- अंग्रेजी, फ्रांसीसी, पुर्तगाली, स्पैनिश, डच, दुनिया-भर से घूम रहे थे। और व्यापार के एक ही डोर में पूरी दुनिया बन्धी जा रही थी। अब सवाल था पूरी दुनिया पर अपना साम्राज्य बनाने का, और अठारहवीं सदी के अंत तक ये बात साफ़ हो चुकी थी कि इसमें या तो इंग्लैंड का पलड़ा भारी रहेगा या तो फ्रांस का। मैत्रेई:- शुरु में लगा कि ये व्यापारी कंपनियों सिर्फ़ अपने फ़ायदे के लिए सफ़र में थीं।		Fade out

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
8.	051	33	Engraving ; British trader, with Indian servants.	Maitreyi (voiceover): But it was not that simple. In India,	मैत्रेई:- लेकिन बात इतनी सीधी नहीं थी। भारत में,		
9. (FN)	054	04	MS Maitreyi at table in Anchor room.	Maitreyi (sync): where the ruling class had become weak, these traders began to take full advantage of this weakness. And in 1757, thousands of miles (kos) from Europe,	मैत्रेई:- [जहाँ शासक-वर्ग कमज़ोर हो चुका था, इन व्यापारियों ने इस कमज़ोरी का पूरा-पूरा फायदा उठाना शुरू किया था, और 1757 में यूरोप से हज़ारों कोस दूर]	Fade in	
→10.	060	16	Graphic ; Map of India. Camera zooms into Plassey Murshidabad & Calcutta indicated	Maitreyi (voiceover): in a corner of India, in Plassey, the foundations of the British Empire were laid.	मैत्रेई:- भारत के एक कोने प्लासी में अंग्रेज़ी साम्राज्य की नींव पड़ी।	Fade out	
11.	065	19	MS Nissim in Anchor room.	Nissim (sync): We come across events in history which must have seemed quite ordinary then, but later their significance became apparent. Fighting for the throne/seat of power was an everyday occurrence in those days, but this battle of Plassey was a special incident. Observers then perhaps thought this was a battle between Siraj-ud-daulah	निस्तिम:- [इतिहास में ऐसी घटनाएँ मिलती हैं, जो तब तो सामान्य-सी घटना लगी होगी, लेकिन आगे चलकर उनका महत्व तिब्द हुआ हो। गद्दी हड़पने की लड़ाईयाँ तो उस ज़माने में आये दिन चलती रहती थीं, मगर प्लासी की ये लड़ाई एक विशेष घटना थी। देखने वालों को तब शायद ऐसा लगा होगा कि लड़ाई नबाब सिराज-उद-दौला]		
12.	081	22	Graphic: sketch of Siraj-Ud-Daulah	Nissim (voiceover): and his minister, Mir Jafar.	निस्तिम:- और उसके दरबारी मीर जाफ़र		

(Footnotes: 9. 'Kos' is the old Indian measure for distance. Use an equivalent.)

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
13.	083	13	Graphic sketch of Mir Jafar	But today everyone knows	निस्तिम:- के बीच हो, लेकिन आज तब जानते हैं		
14.	085	18	MS Nissim in Anchor room.	that the real battle was between Siraj's French allies and Mir Jafar's British friends. The British won.	निस्तिम:- कि अतली लड़ाई तो तिराज के फ्रांसीसी दोस्तों और मीर जाफर के अंग्रेजी मित्रों के बीच थी। जीते अंग्रेज।	Fade in ✓	
15.	090	18	MS base of obelisk at Plassey, put up by British. Camera tilts up to top.	Nissim (voiceover): This memorial, commemorating the British victory, still stands in the battle-field at Plassey.	निस्तिम:- ये स्मारक है अंग्रेजों की उत जीत का, जो आज भी प्लासी के उत मैदान में खड़ा है।		
16. (FN)	098	19	Map of India, with British territory indicated in red. In a series of dissolves, other areas are also similarly indicated, showing the spread of the British Empire.	Maitreyi (voiceover): And gradually, the pink of the British empire spread further and further over India. This pink became the colour (i.e. symbol) of India's servitude.	मैत्रेई:- यूँ ब्रिटिश साम्राज्य के नक्शे का गुलाबी रंग भारत को रंगता ही चला गया। यही गुलाबी रंग भारत देश की गुलामी का रंग बन गया।		
17. (FN)	107	01	'The Nawab's Palace, Murshidabad': water colour, Robert Smith, 1830.	Nissim (voiceover): Now Murshidabad, Agra, Machi-tipatnam	निस्तिम:- अब मुर्शिदाबाद, आगरा, मछलीपटनम		
18.	109	22	'Aurangzeb's Mosque, Benares': Robert Smith, 1830.	were going to decline along with their industries.	निस्तिम:- अपने उद्योगों के साथ तबाह होने वाले थे।		
19.	111	35	'Chowringhee Road from No. XI Esplanade': Charles Doyly.	And unknown nameless fishing hamlets were going to become the country's main towns--Bombay, Madras, Calcutta. And the last Mughal emperor	निस्तिम:- बम्बई, मद्रास और कलकत्ता जैसे अनाम मछुआरों के बतरे देश के प्रमुख नगर बनने वाले थे। और आखिरी मुगल बादशाह को		

(Footnotes: 16. Pink is the colour used traditionally to denote the British Empire on the world map.
17. The three towns mentioned are examples of the industrial centres which declined. We are talking about all such towns, not just these three, so it should be spoken with an "etc" tone.)

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
20. (FN)	117	18	Photograph of Bahadur Shah Zafar, taken before his death in Rangoon, Burma.	was to be denied even two yards of land in Delhi (i.e. burial space)	मैत्रेई:- दिल्ली में दो गज़ जमीन भी नतीब नहीं होने वाली थी।	Fade out	
21.	120	13	MS Maitreyi at table in Anchor room.	Maitreyi (sync): Such was the success of the British, that only eight years after the Battle of Plassey, the Mughal emperor Shah Alam had to hand over the diwani of Orissa, Bengal and Bihar	मैत्रेई:- प्लासी की लड़ाई के बाद अंग्रेज़ों ने सेता कर्तब दिखाया कि केवल आठ सालों में मुगल सम्राट शाह आलम के हाथों से उड़ीसा, बंगाल और बिहार की दीवानी		
22.	127	05	British period engraving: scene at Red Fort as Shah Alam presents Diwani of Bengal, Bihar & Orissa to Robert Clive.	Maitreyi (voiceover): to them. Now these areas came to be governed by the East India Company.	मैत्रेई:- अंग्रेज़ों ने अपने हाथ में ली। अब इस्ट इंडिया कंपनी यहाँ की तरकार बन गयी।		
23.	130	14	MS Maitreyi.	Maitreyi (sync): All taxes were now collected by the British, and not in the form of wheat or paddy but in coins of gold and silver. Thus	मैत्रेई:- तभी दक्कन अंग्रेज़ ही वसूल करने लगे और वो भी गेहूँ और धान के रूप में नहीं - तोना या चांदी के सिक्कों में। इत तरह	Fade in	
24.	136	03	Illustration of ships sailing away as onlookers watch on shore - taken from 'Padmavat' - a Gujarati medieval manuscript, from Khudabaksh Library. Tilt up.	Maitreyi (voiceover): there was no longer need to bring gold or silver from England for trade purposes. Now gold began to flow from India to England.	मैत्रेई:- व्यापार के लिए तोना या चांदी अब इंग्लैंड से भारत लाने की ज़रूरत ही नहीं रही। अब तोना भारत से इंग्लैंड की ओर बहने लगा।		
25.	143	01	MLS a river. A boat passes by from right to left.	Amrita (voiceover): It went to finance the Industrial Revolution there.	अमृता:- अंग्रेज़ों की औद्योगिक क्रांती के लिए	Fade out	Splashing of oars, birds

(Footnotes: 20. "Do gaz zameen" is both a colloquial term for burial plot, and a quote from a poem by Bahadur Shah Zafar, the last Mughal emperor.)

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
26.	153	26	MLS Amrita at stern of boat, Murshidabad in background.	Amrita (sync): As our wealth began to go, our cities began to crumble--like Murshidabad. This city of Siraj-ud-daulah	अमृता:- [हमारी दौलत जाने लगी, हमारे शहर उड़ने लगे-जैसे ये मुर्शिदाबाद। ये तिराज-उद-दौला का शहर]		
27.	159	16	Low angle MS, the entrance of Hazarduari Mahal.	Amrita (voiceover): was once the capital of Bengal,	अमृता:- कभी बंगाल की राजधानी थी।	Fade in	
28.	160	37	MCU Dol-ma-dol cannon, cast in Dhaka.	and a major trading centre	अमृता:- और रेशम, हाथी दांत,		
29.	162	05	CU statue of a lion.	for silks, ivory, gemstones.	अमृता:- हीरे-जवाहरात के व्यापार का बड़ा केंद्र।		
30.	165	11	CU Brocade silk (kinkhab)	--	--		
31.	167	17	CU Dacca Muslin.	--	--		
32.	170	04	MCU handcrafted elephant in ivory.	After the Battle of Plassey	अमृता:- प्लासी की लड़ाई के बाद	Fade out	
33. (FN)	172	28	MCU Amrita walking against black background from right to left. Camera follows her.	Amrita (sync): When this highly prosperous province came under the East India Co., the company followed a policy that was hardly aimed at increasing local production. Thousands of yards of cloth were rolling off the machines in England, for which a market was needed. This cloth, while cheap, was not as fine	अमृता:- [जब भारत का ये सबसे समृद्ध तूबा ईस्ट इंडिया कंपनी के अधिकार में आया तब कंपनी ने यहाँ का उत्पादन बढ़ाने के बजाए कुछ और ही नीति अपनाई। वहाँ इंग्लैंड में मशीनों से हजारों गज कपड़ा तैयार हो रहा था, जिसके लिए बाजार की जरूरत थी। ये कपड़ा सस्ता तो था, मगर भारत में बने कपड़े की तरह]		

(Footnote: 33. "Subah" was the term for a Mughal province. Use the same word, otherwise a general word like "area").

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
34.	184	20	MS a fine silk saree. Amrita enters from right in front of it and walks left across a row of sarees, traditional handlooms in silk and cotton. Track with her.	Amrita (voiceover): as Indian-made cloth. This is why British industrialists got their government to pass tax laws which enabled the East India Co. to sell their cloth in India, while Indian cloth was made prohibitively expensive in England's markets.	अमृता:- आकर्षक नहीं था [इस वजह से इंग्लैंड के उद्योगपतियों ने अपने सरकार से एक सस्ती करव्यवस्था लागू करवाई, जिससे वहाँ का कपड़ा भारत में बेचने का काम ईस्ट इंडिया कंपनी को तौपा गया, और तब ही भारत का कपड़ा इंग्लैंड के बाज़ार में बेहद महंगा बना दिया गया]		
35.	196	18	Low angle MLS, the top of entrance of Imambara at Murshidabad. Camera tilts down to base, as Amrita enters courtyard, and pans left.	Amrita (sync): Not only the textile industry, but gradually many traditional industries were destroyed.	अमृता:- सिर्फ कपड़ा-उद्योग ही नहीं, पर धीरे-धीरे बहुत से पारंपरिक उद्योग चौपट होते गए।	Fade in	
36.	206	26	MLS Amrita in the courtyard walking up to camera.	Murshidabad's population in 1815 was 1 lakh 65 thousand. Some fifty years later less than 25 thousand people remained.	अमृता:- [मुर्शिदाबाद की आबादी तब 1815 में एक लाख पैंतठ हजार थी। बावन साल बाद पच्चीस हजार भी नहीं बची।]		
37.	211	25	Painting: procession of nobility at the 'Eastern Gate of Jama Masjid, Delhi', Thomas Daniell.	Amrita (voiceover): Several other industrial towns were to become victims	अमृता:- और भी कई औद्योगिक शहर आर्थिक तबाही के		
38.	213	39	MCU the bearers of the palanquin. Camera pans left over elephant to soldiers (detail of above).	of economic decline. The heyday of rajas and nawabs was over. How could they buy as much as before from the craftsmen? And the people who had money to invest	अमृता:- शिकार होने वाले थे। राजा-नवाबों के दिन भी लद चुके थे। अब वो कारीगरों से पहले जितना सामान खरीदते भी कैसे? फिर पैसे लगाने वालों को भी		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
39.	221	32	Engraving: 'Part of Chowringhee, Calcutta', Thomas Daniell.	perceived greater profit in the East India Company's trade.	अमृता:- ईस्ट इंडिया कंपनी के व्यापार में ज्यादा मुनाफ़ा नज़र आने लगा था।		
40.	225	14	Engraving: 'Part of the city of Patna on the River Ganges', Thomas Daniell.	When all avenues for earning began to close, where did the craftsmen go? It is thought	अमृता:- जब कारीगरों के लिए पूंजी के रास्ते भी बंद होते गए तो वो कहाँ गए होंगे? तोचा गया है कि	Fade out	
41.	230	15	MLS farmer driving cows towards camera. Camera pans right to MS Amrita on river bank, Hazarduari Mahal in background. She walks right and up to camera.	that many people took up agriculture. But this increased pressure on the land must have created new problems. Moreover, there was less and less scope for their technical knowledge/skills, because now our finished goods were less	अमृता:- काफ़ी तारे लोग तो खेती करने लगे होंगे। लेकिन यँ ज़मीन पर दबाव बढ़ने से एक नई समस्या भी तो पैदा हो गई होगी। अपने तकनीकी ज्ञान को उपयोग में लाने के रास्ते उनके लिए बंद होते जा रहे थे, क्योंकि अब हमारे तैयार माल की कम,		Farmer encouraging bullocks, birds.
42.	241	32	Detail of lithograph: 'Beach of Madras', William Simpson, 1867.	in demand, our raw materials more so.	अमृता:- और कच्चे माल की ज़्यादा माँग हो रही थी।		Water
43.	243	33	Full shot of same painting.	Nissim (voiceover): An age of transformations was to come.	निस्तिम:- युग परिवर्तन होने को था।		
44. (FN)	246	15	MCU Nissim in Anchor-room.	Nissim (sync): And many industries that had attracted foreigners here through the centuries were to come to an end. Such as the steel made here,	निस्तिम:- और कई ऐसे उद्योग जिनसे खिंचकर सदियों से विदेशी यहाँ आ रहे थे, वही आगे चलकर खत्म हो जाने वाले थे। जैसे कि यहाँ बना इस्पात, या स्टील,		

(Footnotes: 44. Use the word for steel in the language of the version, and the English word "steel".)

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
45.	253	22	Mughal miniature: a nobleman with armour - from the collection of City Palace, Jaipur.	Nissim (voiceover): which was famed for its sharp edge	निस्तिम:- जितके बारे में ये बात प्रतिद्वधी कि उसकी धार	Fade in	
46.	255	35	CU weapons held by the soldier.	that was supposed never to grow blunt.	निस्तिम:- एक बार अगर बनी तो कभी कम नहीं होती।		
47.	258	05	Mughal Miniature (Jehangir period): nobleman Adam Khan with troops in background. Camera tilts down to his shield.	--	--		
48.	263	01	Graphic: Map of India. Camera zooms into Nizamabad and Hyderabad.	Ranjan (voiceover): Researchers told me that the steel industry was concentrated in Mysore, Salem and Indur i.e. today's Nizamabad.	रंजन:- खोज करने वालों से मुझे पता चला कि इस्पात-उद्योग खास करके मैसूर, तेलम, और इंदूर, यानि आज के निज़ामाबाद में हुआ करता था।	Fade out	
49.	270	23	LS Charminar.	--	--		Traffic
50.	274	35	Low angle MLS top of the gateway. Camera tilts down to street in front of it.	When the search for this steel brought me to Hyderabad, I found some wonderful examples.	रंजन:- इस्पात या फ़ौलाद की यह खोज मुझे जब हैदराबाद ले आई, तब मुझे वाकई कुछ काम के नमूने मिले।		
51.	281	15	CU two knives (curved)	--	--		
52.	283	05	CU swords.	When I saw these weapons,	रंजन:- मैंने जब उन हथियारों को देखा		
53.	285	13	Low angle MCU a shield.	I realised why they were considered so unique.	रंजन:- तो तमझ में आया कि तब लोगों को उनपर इतना नाज़ क्यों था।		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
54.	288	16	MLS Ranjan in Salar Jung Museum, swords in background.	The special feature of these weapons was the sharp edge that was very durable. All over the world these swords were known as 'Damascus swords', although their metal was manufactured here, and to a large extent the swords as well. The Europeans called this metal 'wootz'. But Kannada and Telugu speaking blacksmiths and artisans called it 'ukku'.	रंजन:- इन हथियारों की खासियत थी तेज़ धार, जो काफी समय तक टिकती थी। दुनिया-भर में ये तलवारें 'दमस्कस शॉर्ड' के नाम से जानी गयीं, हालांकि इनका धातु भी यहाँ बनाता था और काफी हद तक ये हथियार भी। इस धातु को 'वूट्स' नाम दिया यूरोपिय लोगों ने। कन्नड़ और तेलुगु बोलने वाले लोहार-कारीगर तो इसे 'उक्कु' कहते थे।		
55.	301	33	Top angle CU, the handle of a sword. Camera pans right and tilts up over blade to tip.	To make weapons from 'ukku', the metal had to be repeatedly heated at a fixed temperature, beaten and cooled. During this process the metal developed a special structure,	रंजन:- उक्कु से हथियार बनाने के लिए उसे एक निश्चित तापमान पर बार-बार गर्म किया जाता था, बार-बार पीटा जाता था और बार-बार ठंडा किया जाता था। इस दौरान धातु को एक विशेष संघर्चना मिलती,		
56.	310	18	CU curved blade of a knife, with ridges.	and the wootz was transformed into steel, with wavy lines on its surface. The closer and more uniform these lines,	रंजन:- और वूट्स बदल जाता इस्पात में, और उस पर धारियाँ भी पड़ जाती थीं। इस्पात पर पड़ी धारियाँ या लहरियाँ		
57.	315	04	CU sketch of ridged lined metal of blade.	the better the quality of the steel.	रंजन:- जितनी पात-पात और समान होतीं उतना ही उसे बेहतर समझा जाता था।		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
58.	318	15	MLS Ranjan at table in library. He takes down book from shelf and opens it.	This tradition no longer survives.	रंजन:- आज ये परंपरा जीवित नहीं रही,		
59.	321	01	Top angle MCU page of the book. Ranjan's hand turns the pages to another page and points to a paragraph.	But Mughal and European records contain descriptions of it. In his 'Ain-e-Akbari' the Mughal historian, Abul Fazl, refers to	रंजन:- लेकिन मुगल और यूरोपीय दस्तावेजों में इसके बयान मिलते हैं। मुगल इतिहासकार अबुल फज़ल ने 'आईन-ए-अकबारी' में इंदूर और		
→60.	326	18	Map: Indore, Nirmal, Indalvai, Hyderabad shown, with river Godavari as reference.	steel made in Nirmal and Indur.	रंजन:- निर्मल में बने फौलाद का जिक्र किया है।		
61.	330	10	MLS Ranjan walking towards camera, along a path (outside Indalvai Fort). He walks right and then away from camera, along path. Camera pans right with him and further to landscape.	Ranjan (sync): The fort of Indalvai stood here. This was a centre for the manufacture and sale of steel weapons. To find out why the steel industry made so much progress in this area, I met a geologist, Dr. S R Sharma.	रंजन:- <u>इंदलवाई</u> का किला था यहाँ। ये इस्पात के हथियारों के उत्पादन और बिक्री का केंद्र था। इस इलाके में इस्पात उद्योग की तरक्की के कारण जानने के लिए मैं एक जियोलाजिस्ट, डॉ. शर्मा से मिला।		Birds
62.	340	15	MLS Ranjan and Dr. Sharma sitting on rocks, looking at a map. Dr. Sharma indicates with his finger.	NB: sync dialogue track <u>Ranjan's voiceover for talk with Dr. Sharma</u> He told me there were two types of iron ore deposits in Nizamabad district. Laterite, which	रंजन:- निज़ामाबाद ज़िले में लोह-खनिज कहाँ-कहाँ मिलते हैं? डॉ. शर्मा:- निज़ामाबाद ज़िले में दो किस्म के लोह-खनिज रहते हैं। एक तो लटराईट है जो		
63.	346	10	CU Dr. Sharma's finger pointing out Deccan trap laterite patches on map.	was indicated on his map by brown patches, lay in the Deccan trap.	डॉ. शर्मा:- डेक्कन ट्रैप के उपर ये ब्राउन पॉचेज़ हैं। ये डेक्कन ट्रैप जो है, हरा है।		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
64.	348	32	MS Dr. Sharma	The other-haematite and magnetite - indicated in pink, was found in granite areas.	डॉ शर्मा:- दूसरा जो है - हैमटाईट और मैग्नेटाईट-यै पिंक एरियाज़ जो ग्रैनाईट है - उनमें मिलता है।		
65.	352	20	Top angle MLS pieces of crucibles etc.	--	--		
66.	354	01	MS Ranjan, hill in back-ground. He walks right and away from camera. Camera pans right with him.	Ranjan (sync): There, beyond the hill, some 50 kms away, we find remains of an iron smelting industry that was based on the use of magnetite ore. And 80 kms away in this direction they extracted iron from laterite ore. Both kinds of iron were used here, to manufacture steel.	रंजन:- [उत ओर, पहाड़ ही के पीछे, पचास कि.मी. की दूरी पर लोहा बनाने के उद्योग के अवशेष मिलते हैं। वहाँ मैग्नेटाईट अपस्क से लोहा बनता था। और इस दिशा में करीबन अस्ती कि.मी. की दूरी पर लैटराईट अपस्क से लोहा बनता था। ये दोनों किस्म के लोहे यहाँ इस्तेमाल किए जाते थे, इस्पात बनाने के लिए।]		
67.	368	13	MLS a clearing amidst houses. Pan right to Ranjan. He walks right, picks up a few 'remains', camera moves with him, and further, tilting down to the remains.	Ranjan (voiceover): In Konasamudram village, right in the midst of houses and fields, is this heap of (industrial) waste. It contains pieces of thousands of crucibles, remains of furnaces, iron slag. Such heaps are found in many places Nizamabad district.	रंजन:- कोनासमुद्रम गाँव में घरों और खेतों के बीच ही ये मल्लखे का [बड़ा-ता ढेर। इसमें हैं हजारों कूटिबल्ल के टुकड़े, भट्टियों के अवशेष और बहुत-ता धातुमल।] निज़ामाबाद ज़िले में कई जगहों पर इस तरह के ढेर मिलते हैं।		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
68.	383	38	MCU the remains. Camera pans right over them.	From the number of crucibles and furnaces we can estimate on how large a scale steel was made in this area. In the records of the Dutch East India Company there is a reference, that on such-and-such date, from Machilipatnam,	रंजन:- कृतिबल्ल और मट्टियों की ता-दाद से अंदाज़ा लगाया जा सकता है कि इस इलाके में कितने बड़े पैमाने पर इस्पात बनाता था। जैसे डच इस्ट इंडिया कंपनी के दस्तावेज़ों में एक जिक्र है कि फ्लाँ तारीख को मछिलिपटनम से		Birds
69. (FN)	399	01	Engraving: sailing ships in harbour, Victoria Memorial Collection.	a ship loaded with twenty thousand ingots, or cast rounds of steel, sailed for Persia.	रंजन:- एक जहाज़ में इस्पात के बीस हजार इंगट, या दले-हुए गोले, पर्सिया भेजे गए		birds
70.	403	01	Top angle MLS Ranjan at site.	Ranjan (sync): Such a large-scale industry must have relied on other (ancillary) industries. The furnaces and crucibles required	रंजन:- इतने बड़े उद्योग को चलाने के लिए इतने जुड़े हुए अन्य उद्योग ज़रूर रहे होंगे - जैसे मट्टियाँ और कृतिबल्ल बनाने के लिए		
71. (FN)	408	31	CU artwork : potter's hands shaping crucible on wheel. Camera zooms out to full shot, of potter making crucible, freshly thrown crucibles, and man kneading clay.	Ranjan (voiceover): special refractory material to be made. Then charcoal-making	रंजन:- खात रिफ़्रेक्टरी मटीरियल तैयार करना। फिर इंधन के लिए	Fade in	
72.	413	34	Artwork: charcoal being prepared in pits in a forest.	from wood, for fuel. And the iron, fuel,	रंजन:- लकड़ी का कोयला बनाना। और लोहा, इंधन,		
73.	416	09	Artwork: baskets of charcoal being transported by bullock-cart.	refractories and steel had to be	रंजन:- रिफ़्रेक्टरीज़ और इस्पात ले जाने-लाने के लिए		

(Footnotes: 69. Use the English word "ingot" as well as the explanation i.e. "cast rounds of steel".
71. Use the English word "refractory" unless there is a common term for it in the language of the version.)

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
74.	418	20	Full shot of above.	transported up and down. (pause) When we speak of industries in India,	रंजन:- यातायात की व्यवस्था । भारत की उद्योगों की बात चलते ही		
75.	421	34	Artwork: man kneading clay with feet, to prepare it for wheel throwing.	it is cottage industries that come to mind.	रंजन:- कुटिर-उद्योग की कल्पना तामने आती है ।		
76.	423	20	Artwork: potter at work.	But here it was not like that.	रंजन:- मगर यहाँ ऐसा नहीं था ।		
77.	424	39	Artwork: CU potter's hands, shaping crucible on wheel.	Steel, and related industries were,	रंजन:- इस्पात और उतते जुड़े हुए अन्य कारोबार		
78.	426	24	Artwork: freshly thrown crucibles.	even before the Industrial Revolution,	रंजन:- औद्योगिक क्रांती के पहले से ही		
79.	428	05	Artwork: charcoal being prepared in pits in forest.	operating on a really big scale here. Around 1820,	रंजन:- बहुत बड़े पैमाने पर चल रहे थे। 1820 के आसपास,		Fade out
80.	431	09	MLS a line of shelves in Salar Jung library. Ranjan enters in front of them, from left, in MS.	Ranjan (sync): the british geologist, Woysey, wrote that the furnaces were quite large, five feet deep, in which a number of crucibles were placed.	रंजन:- ब्रिटिश जिऑलॉजिस्ट [वॉयसी] ने लिखा कि भट्टियाँ काफी बड़ी थीं, पाँच फुट गहरी थीं, जिनमें बहुत तारे मूषे या क्रुसिबल एक साथ रखे जा सकते थे।		
81.	437	11	Artwork: man pumping bellows.	Ranjan (voiceover): These crucibles were filled with cast iron and bits of vitreous slag.	रंजन:- फिर क्रुसिबल में ढलवा लोहे के साथ काँच-नुमा धातुमल के टुकड़े भरे जाते थे ।		Fade in
82.	441	09	Full shot of above: showing furnace and iron smith at work.	And then began the 24-hour-long process of smelting the metal.	रंजन:- और धातु पिघलाने की चाबीत घंटे लंबी प्रक्रिया शुरू होती ।		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
83.	444	36	CU same as above man recharging furnace with charcoal. Camera pulls back to full shot.	Charcoal had to be added to the furnace repeatedly, and air was pumped in through four large bellows of buffalo hide. Finally	रंजन:- इस दौरान भट्टी में लकड़ी का कोयला बार-बार डालना पड़ता, और भीत के चमड़े से बनी चार बड़ी धुकनियों से लगातार हवा पंप की जाती थी। अंत में		
84.	452	18	Artwork: iron smith removing crucible from furnace.	the crucibles were taken out and gradually cooled. And then	रंजन:- कूतिबल को बाहर निकालकर धीरे-धीरे ठंडा किया जाता था। और फिर		
85.	456	02	CU of above: crucible being removed and kept aside for cooking.	the wootz ingots were heated again and again,	रंजन:- वूट्ज के गोलों को बार - बार गर्म करके		
86.	457	32	Artwork: iron smith forging wootz on anvil.	and beaten to form the desired weapons.	रंजन:- पीट-पाटकर मनचाहे हथियार बनाए जाते थे।		
87.	461	13	Artwork: CU of wootz being shaped on anvil.	Although wootz was the stage between raw material and finished product, the process of making it was the most complex.	रंजन:- वूट्ज तो वैसे कच्चे और तैयार माल के बीच की अवस्था थी, पर इसे बनाने की प्रक्रिया सबसे जटिल थी।		
88.	466	08	Artwork: CU Ironsmith.	Here the structure and composition of the crucible	रंजन:- इसमें कूतिबल की रचना और कॉम्पोजिशन		
89.	468	18	Artwork: CU the crucible being removed and kept aside for cooking.	are of utmost importance.	रंजन:- सबसे महत्वपूर्ण हैं।	Fade out	
90.	472	27	LS trees. Ranjan's hand comes up in CU in foreground, holding crucible lid. He indicates notches on lid.	This is the lid of the crucible. These marks show where the hot crucible was removed from the furnace with tongs.	रंजन:- ये कूतिबल का ढक्कन है। ये निशान बताते हैं कि गर्म कूतिबल को ताण्डली की मदद से भट्टी से बाहर निकाला जाता था।		Birds

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
91.	479	07	Top angle MS Ranjan's foot. His hand brings crucible - cover into foreground, indicates piece of crucible wall. Then he brings the 'base' of the crucible into frame, and holds the two pieces together.	A small section of the crucible wall is still attached to this lid. And this is an example of the base or the bottom section.	रंजन:- कृतिबल के टुककन से कृतिबल की दीवार का छोटा-सा हिस्सा जुड़ा हुआ रह गया है। और ये है बेस, या नीचे के हिस्से का नमूना।		
92.	485	28	MCU Ranjan.	Ranjan (sync): The crucible had to be broken to take out the cast ingot of wootz. Obviously	रंजन:- [वुड के टले इंगट को निकालने के लिए कृतिबल को तोड़ा जाता था। ज़ाहिर है]		
93.	489	06	MCU Ranjan's hand holding crucible lid.	Ranjan (voiceover): the crucible could be used only once.	रंजन:- इसे एक बार ही इस्तेमाल किया जा सकता था।		
94.	491	12	Artwork : sketch of crucible, lid and vessel indicated.	Doctor	रंजन:- डॉ.		
95.	492	30	MS Ranjan in laboratory, Dr. Lahiri in background. Camera tracks right and pans left to MLS both.	Ranjan (sync): Jhumur Lahiri was analysing these crucibles with the help of photo-micrography. NB: sync dialogue track Ranjan's voiceover for conversation with Dr. Jhumur Lahiri: First we looked at the design of the crucible.	रंजन:- [जूमुर लहिरी फोटोमाइक्रोग्राफी की मदद से इन कृतिबल की जाँच कर रही है] डॉ. लहिरी:- तो सबसे पहले ये कृतिबल की डिज़ाइन को		
96.	499	08	Graphic : the crucible. Dissolve to Graphic : crucible, the cover and vessel separate.	It is made to withstand very high temperatures.	डॉ. लहिरी:- देखते हैं। ये ऊष्मसहन है-बहुत ऊँची तापमान सह सकती है.	Music on dissolve	
97.	504	07	MCU Dr. Lahiri holding piece of crucible.	The shiny glaze on the inside is formed in the heat of the furnace. So is the outer glaze.	डॉ. लहिरी:- देखिए ये है इस्तेमाल किया हुआ कृतिबल का टुकड़ा। ये अंदर का चमकदार ग्लेज़ भट्टी में पकते-पकते बना है, और बाहर भी ग्लेज़ बना है।		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
98.	511	02	Graphic: the two halves of the crucible, with cross-section of the lower half. In a series of dissolves, wootz and slag appear inside.	The inside glaze protects the crucible from the melted iron and slag, while the outer glaze prevents the gases in the furnace from entering the crucible. The melted iron collects at the bottom in the form of a wootz ingot and the slag remains on top.	डॉ. लहरी:- अंदर का ग्लेज़ पिघले हुए लोहे और मल से क्रुसिबल को बचाता था, और बाहरी ग्लेज़ भट्टी के गैसेज़ को क्रुसिबल के अंदर नहीं आने देता था। और यहाँ पिघला हुआ लोहा ठंडा होकर वूटज़ का गोला बन जाता था, और ऊपर रह जाता था मल, या स्लैग।	Music on dissolves	
99.	527	04	MCU Ranjan.	She told me how the crucibles were made.	रंजन:- क्रुसिबल की बनावट ही इस प्रक्रिया की खातिर रही होगी।		
100.	529	14	MCU Dr. Lahiri.	Burnt husks of rice and oil were mixed with clayey soil.	डॉ. लहरी:- हाँ, आपने पढ़ा होगा कि ये चिकनी मिट्टी, चावल के जले हुए छिलके और तेल से बनता था।		
101.	533	15	MLS Ranjan and Dr. Lahiri	I knew that clayey soil was used in pottery, but why the rice husks? She showed me some slides.	रंजन:- चिकनी मिट्टी तो ठीक है - वो तो पॉटरी में भी होती है, लेकिन चावल के छिलके से क्या होता है ? डॉ. लहरी:- चलिए मैं आपको स्लाइड्स दिखाती हूँ।		
102.	538	17	A series of photomicrograph images; wall of crucible.	The cross-section of the crucible showed how porous it was.	डॉ. लहरी:- ये क्रुसिबल की चादर का क्रॉस-सेक्शन है-अंदर से ये कितना पोरस है, देखिए।	Slide changing	

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
102.	continued		Wall of crucible at greater magnification.	This increases its insulation capacity,	डॉ. लहरी:- चादर पोरत होने से उसकी इन्सुलेशन की क्षमता बढ़ जाती है।		Slide changing
			Paddy husks.	and the porosity is because of the rice husks.	डॉ. लहरी:- इस पोरसिटी का कारण है ये चावल के छिलके।		"
103.	553	07	MCU Dr. Lahiri and Ranjan at table with slide projector. She presses the button.	Also the husks prevent cracks from growing. This is similar to the use of grass and hay in mud huts.	डॉ. लहरी:- अगर चादर में दरार पड़ रही हो तो छिलका उसे आगे बढ़ने से रोकता है-जैसे गाँव में घर बनाते समय मिट्टी के साथ घास-पुअल डाला जाता है।		"
104.	561	31	CU wall of a village hut - showing how straw has been mixed with mud. XCU the wall, straw embedded in the wall.	The husks contain	डॉ. लहरी:- इन छिलकों में		"
105.	566	17	MS Dr. Lahiri with slide - projector.	a fair amount of silica, which increases the crucible's ability to withstand heat.	डॉ. लहरी:- काफी तिलिका मौजूद रहता है जो क्रुतिबल को ताप सहने में मदद करता है।		"
106.	571	07	Photomicrograph indicating presence of carbon because of burnt paddy husks in crucible wall. Camera zooms into it.	These charred husks introduce carbon into the sides of the crucible, thus reducing the possibility of its reacting with the slag.	डॉ. लहरी:- और जले हुए छिलके जो यहाँ भूरे रंग में दिखाई दे रहे हैं, क्रुतिबल की चादर में कार्बन मिला देते हैं और स्लैग या मल के साथ चादर के रिअैक्शन होने की संभावना कम हो जाती है।		"

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
107.	580	17	MCU Ranjan.	Ranjan (sync): So what was waste matter for those craftsmen has become a record for us. This crucible tells us how much they had learnt about (the properties of) different substances.	रंजन:- [उन कारीगरों के लिए तो ये सिर्फ मलबा था जो आप लोगों के लिए आज एक दस्तावेज़ बन गया है। ये क्रुचिल हमें कहता है कि उन कारीगरों को अलग-अलग पदार्थों की कितनी गहरी जानकारी थी]		
108.	587	39	Miniature from the 'Akbar Nama', showing a battle outside a walled fort. Camera tilts down it to show details of ornaments.	Maitreyi (voiceover): The age of fighting with shields and swords having passed,	मैत्रेई:- ढाल और तलवार से लड़ने का ज़माना बीत गया ,		Fade in
109.	594	04	Top angle LS street in a village in Telengana. Camera pans left over village to LS people building a hut.	the steel industry of Telengana, which was three centuries old, also came to an end. Why couldn't the local craftsmen discover new solutions ? The story of Murshidabad repeated itself - all the capital invested in the steel industry vanished. In England, the Industrial Revolution was under way, with many craftsmen coming up with inventions, with the full backing of the capitalists.	मैत्रेई:- तो यहाँ तैलंगाना में तीन सदियों से चल रहा इस्पात उद्योग भी ठप हो गया। क्या वजह थी कि यहाँ के कारीगर नए उपाय नहीं खोज सके ? वही मुर्शिदाबाद वाला हाल हुआ यहाँ भी - इस्पात उद्योग में लगी हुए तारी पूँजी जैसे गायब हो गयी। इंग्लैंड में उन्नीसवीं शताब्दी के औद्योगिक क्रांति हो रही थी, जिसमें बहुत-से कारीगर नए आविष्कार कर रहे थे-पूँजीपतियों के पूरे सहारे के साथ।		Construction
110.	614	09	MS Maitreyi at table in Anchor room. Camera moves anti-clock wise around table, tilting down to books on table, then upto MS Nissim at table. Camera moves clockwise around table, and tilts down to books and model of steam engine.	Maitreyi (sync): Actually, the age of the Industrial Revolution was the age of iron and steel. Machines, ships, bridges, trains, railway tracks, huge stations, immense buildings, factories -- how could all this have been built without iron and steel ?	मैत्रेई:- [औद्योगिक क्रांति का ये दौर दरअसल लोहे और इस्पात का ही दौर था। मशीनें, जहाज़, पुल, रेलगाड़ियाँ, फिर उनके लिए पट्टियाँ, बड़े-बड़े स्टेशन्स, विशाल इमारतें, कारखाने, ये सब लोहे और इस्पात के बिना बन सकते थे ?		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
110.	continue			<p>Nissim: Where, now, was the demand for craftsmanship and quality of the Telengana sort? The demand was only for large-scale production -- and that, too, at lower costs. Yes, strength was one consideration/condition. Had someone attempted, with the Telengana sword-making technique, to make an iron engine, it would probably have taken years! Only the Bessemer converter and open-heart process could produce the quantities needed for such engines.</p>	<p>निस्तिम:- अब तेलंगाना जैती कारीगरी और क्वालिटी की माँग ही कहाँ थी। माँग थी बत बड़े पैमाने पर होने वाले उत्पादन की, वो भी कम कीमत पर। हाँ, मज़बूती की शर्त ज़रूर थी। तेलंगाना की तलवारों वाली तकनीक लेकर तब कोई लोहे का इंजन बनाने बैठता तो शायद बरसों लग जाते। बेसेमर कन्वर्टर और ओपन हार्ट प्रोसेस ही ऐसे इंजन तैयार कर सकते थे।</p>		
111.	641	28	Model of an early engine - CU of the interlocking gears.	<p>Nissim (voiceover): And it is by these steam engines, after all, that we identify the Industrial Revolution.</p>	<p>निस्तिम:- और भाप पर चलने वाले ये इंजन ही तो औद्योगिक क्रांति की पहचान हैं।</p>		Fade in
112.	644	14	CU the piston.	<p>Raghu (voiceover): The knowledge of,</p>	<p>रघु:- भाप की शक्ति,</p>		Fade out
113.	652	05	MS Raghu in Birla Industrial & Technological Museum, Hero's steam-engine in background.	<p>Raghu (sync): or use of, steam power was not something new. In 150 BC an Alexandrian inventor, Hero, made this toy which used steam power.</p>	<p>रघु:- यानि स्टीम पावर की जानकारी का इस्तेमाल, कोई नई बात नहीं है। ईसापूर्व 150 में सिक्ंदर के आविष्कारक हीरो ने ये खिलौना बनाया था जितमें स्टीम पावर का इस्तेमाल हुआ।</p>		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
114.	658	38	CU Raghu's hand indicates bottom of engine, then the sphere on top, then rotates the sphere; in demonstration.	Raghu (voiceover): Water was heated over a flame here, and the steam thus formed went into this round container. This steam came out through these two pipes in opposite directions, making the container turn. But the potential	रघु:- यहाँ आग से पानी गर्म किया जाता था और ये पानी स्टीम बनकर इस गोले में आ जाता था। यहाँ ये स्टीम इन दोनों नलियों से विपरीत दिशाओं में बाहर निकलकर इस गोले को घुमाता था। पर भाप की शक्ति की	Synthesized water & steam	
115.	669	17	MCU Raghu.	Raghu (sync): of steam power was to be recognized and harnessed centuries later. The seventeenth	रघु:- [क्षमता को पहचानकर उते काम में लाना कई सदियों बाद ही होन वाला था। तत्रहवीं]		
116.	672	32	MCU top of Porta's apparatus. Camera tilts down to base.	Raghu (voiceover): century is full of examples. For instance, Porta's apparatus, in which steam power pumps up water. And this flour mill,	रघु:- तदी में इसके कई उदाहरण मिलते हैं, जैसे कि ये पोर्टा का अपॉरटत, जिसमें स्टीम की शक्ति से पानी उपर उठता है। फिर आटा पीतने के लिए		
117.	679	16	MCU model of Broca's apparatus - Camera pans right over it.	a machine made by Broca, in which a Persian wheel-type gear system used steam power instead of bullocks.	रघु:- ब्रीका ने ये यंत्र बनाया, जिसमें एक रहत जैसे ग्यर सिस्टम अब बैलों के जोर के बजाए भाप की शक्ति से चलता था।	Synthesized FX	
118.	685	05	MS Raghu in front of Papin's engine. He walks right, along models, stopping by Savery's pump and Newcomen's atmospheric Steam Engine, corresponding to dialogue. Camera moves with him.	Raghu (sync): By the end of the seventeenth century we find more advanced models - in Dennis Papin's engine of 1690, the use of a piston helped to lift weights with a pulley. Then, in 1702, Thomas Savery made the 'Miners' Friend', which was used to pump water out of coal mines. Later - thirty seven years later - came the merchant Newcomen's atmospheric steam engine.	रघु:- [तत्रहवीं तदी के आखिर तक हमें और विकसित मॉडल मिलते हैं। 1690 में डैनिस पेपिन ने एक इंजन बनाई जिसमें पिस्टन का इस्तेमाल करके पुली के च्दारा वजन उठाया जा सकता था। उसके बाद 1702 में थॉमस सेवरी ने बनाया - 'माईनर्स फ्रेंड' जो कोयला-खानों से पानी बाहर खींचने के काम आता था। उसके बाद-सैंतीस		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
118.	continued						
					ताल बाद-व्यापारी न्यूकमन ने बनाया अंटमॉस्फियरिक स्टीम इंजन]		
119.	704	28	Graphic: Newcomen's engine - indicating 'up-down' movement.	Some fifty years later	रघु:- करीब पचास ताल बाद	Synthesized FX	
120.	707	34	MCU Watt's engine. Camera pulls back to include Raghu standing in front of it.	a toolmaker at Glasgow University, James Watt, made technical improvements on Newcomen's pump. Now the steam engine became less cumbersome and it also consumed less fuel. But the Industrial Revolution could not have occurred merely because steam power was used to operate engines and pumps. It was necessary for steam power to be used in other areas as well.	रघु:- ग्लासगो यूनिवर्सिटी के औज़ार बनाने वाले जेम्स वॉट ने न्यूकमन के पंप में और तकनीकी सुधार किया। अब स्टीम इंजन अधिक [तक्षम भी बन गया और इंजन का बचाव भी होने लगा। लेकिन स्टीम पावर से सिर्फ इंजन या पंप चलाने से औद्योगिक क्रांति तो नहीं हो पाती। ज़रूरी था कि स्टीम पावर का और क्षेत्रों में भी इस्तेमाल की जाए]	"	
121.	722	24	MCU Raghu.	When we watch a craftsman at work, we see that his movements are mainly of two kinds --	रघु:- [जब हम किसी कारीगर को काम करते हुए देखते हैं तो ज्यादातर उनके मूवमेंट्स दो तरह के होते हैं]	"	
122.	726	30	Graphic: English weaver making 'up-down' movements at handloom.	Raghu (voiceover): Either backwards and forwards or up-and-down,	रघु:- या आगे - पीछे या उपर-नीचे	Synthesized music & machine FX	
123.	728	23	Graphic: English spinner making circular movements as she works at spinning wheel.	and circular. Couldn't these movements be done by machines?	रघु:- और दूसरा गोल-गोल। क्या मशीन भी ऐसे मूवमेंट नहीं कर सकते ?	"	

S.no.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
124.	731	23	MS model of beam-type steam engine, beam starts moving up and down, and wheel rotates.	They certainly could, and very much faster.	रघु:- ज़रूर कर सकते हैं, और वो भी ज़्यादा तेज़ी से।	Synthesized music & machine FX	
125.	735	32	CU power-loom weaving cloth.	--	--	"	
126.	739	26	MS side of power-loom, showing shuttle.	--	--	"	
127.	742	19	LS mill floor, power looms working. A worker enters from right and checks the cloth.	--	--	"	
128.	747	12	Engraving: 19th century English textile mill floor. Camera pans right over it.	Now one man could weave as much cloth in a day as it took three hundred men to weave fifty or sixty years earlier.	रघु:- अब एक आदमी एक दिन में इतना कपड़ा बुन सकता था जितना पचास - साठ साल पहले तीन सौ आदमी बुनते थे।	"	
129.	752	00	Engraving: workers at spinning machines.	Steam power, and machines. It was their coming together that made the Industrial Revolution.	रघु:- भाप की शक्ति और मशीन, इन्हीं के मेल से हुई औद्योगिक क्रांति।	Fade out	
130.	755	19	MCU Raghu.	Raghu (sync): And with this, human productivity changed permanently. While books are full of stories of various machines that now performed human tasks, few people know, perhaps, that many inventors were not great scientists but common folk/ordinary people.	रघु:- [और इस से मनुष्य की उत्पादन की शक्ति में स्थायी परिवर्तन आया। आदमियों का काम अपने हाथ में लेने वाले स्ते तरह-तरह के मशीनों की कहानियाँ बहुत तारी किताबों में मिलती हैं, पर शायद कम लोग जानते हैं कि इनके आविष्कारक महाने वैज्ञानिक नहीं, आम आदमी थे।]		
131.	765	11	Black and white print of oil painting of Richard Arkwright in CU.	--	--	Fade in	
132.	766	22	Full shot of same - Arkwright with spinning frame.	Raghu (voiceover): Arkwright, who invented the spinning frame, was a barber. His collaborator, John Kay,	रघु:- आर्क राइट, जितने ये स्पिनिंग फ्रेम बनाई, एक नाई था। उसका साथी जॉन के		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
133.	770	02	Closer shot of the spinning frame, Arkwright's hand resting on it.	was a watchmaker.			
134.	771	32	CU Cartwright: black-and-white portrait in open book.	And Cartwright, who made the first loom (machine for weaving), was a clergyman.			
135.	774	20	MLS a steam locomotive (on display at Nehru Science Centre, Bombay). Camera tracks right to reveal Raghu walking alongside engine. Camera moves ahead of him, tracking to right as he moves right. Shot ends on static MS Raghu.	Raghu (sync): People from every social class took part in this revolution. Whoever came up with a new technique had behind him a host of people ready to invest capital. This was why industries in England made speedy progress. And this progress brought about a deep transformation in that society. This had two major aspects. One was the factory system,			Fade out
136.	791	31	Engraving: interior of a factory as workers break for lunch, on factory floor.	Raghu (voiceover): in which the craftsman now worked as a labourer.			
137.	794 to 796	02 29	Engraving: typical Industrial Revolution landscape - factories, chimneys, railway tracks. (End of Reel 1 - Episode 10).	The other was capitalism.			
					रघु:- घड़ी - ताड़ था।		
					रघु:- और कार्ट राइट, जितने पहली बुनाई करने वाली मशीन बनाई, एक पाद्री था।		
					रघु:- समाज के हर वर्ग का आदमी इस क्रांति में शरीक था। जो कोई भी नई तकनीक इजाजत कर लेता था उसके पीछे पूंजी लगाने वाले लोग तैयार खड़े हुए थे। यही तो कारण था - इंग्लैंड में उद्योगों ने तेज़ रफ़्तार से प्रगति की थी। और इस प्रगति से वहाँ के समाज में एक गहरा परिवर्तन आया जिसकी दो मुख्य बातें थी। एक वो फैक्टरी सिस्टम,		
					रघु:- जितमें हर कारीगर अब मज़दूर बनकर काम पर लगा हुआ था।		
					रघु:- और दूसरा - पूंजीवाद।		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
138.	000	00	MS Nissim in Anchor room.	Nissim (voiceover): It was not as though the Industrial Revolution brought with it only progress.	निस्तिमः- ^{कैसे यूरोप में} औद्योगिक क्रांति तिरफ़ तरक्की लाई हो - ऐसा नहीं है।]		
139.	003	04	19th century engraving: view of tenement houses in a working-class area in England.	Nissim (voiceover): This is evident from the condition of those who worked in the urban factories and in mines.	निस्तिमः- शहरी कारखानों और खदानों में काम करनेवालों के हालात से ये ज़ाहिर है।	Fade in	
140.	006	20	19th century engraving: street scene in an English working-class area.	There, too, it was mainly the farmers and artisans who paid the price for	निस्तिमः- वहाँ भी किसानों और कारीगरों ने ही मुख्य तौर पर बदलाव की कीमत		
141.	009	38	19th century engraving: interior of a working class home.	change. Leaving their land and their work,	निस्तिमः- चुकाई। अपनी ज़मीन और काम छोड़कर		
142.	011	34	Detail of above : father and grandmother	no matter where they went to live, their living conditions	निस्तिमः- वो जहाँ भी बसे, उनके रहने का प्रबंध		
143.	013	24	Another detail of above mother and daughter.	were cramped and unhealthy. And then, away from the air and light,	निस्तिमः- तंग और दूषित था। फिर हवा-रोगनी से दूर		
144.	017	00	19th century engraving : scissor - grinders bent over work in a factory in Sheffield.	they had to work sixteen to eighteen hours a day.	निस्तिमः- उन्हें तोलह-अठारह घंटे काम करना पड़ता था।		
145.	018	34	Detail of individual workers.	And wages were so low	निस्तिमः- और पगार इतनी कम थी		
146.	020	22	19th century engraving: mother and child working in a spinning mill.	that the entire family had to labour - even children of four and five.	निस्तिमः- कि पूरे परिवार को मजदूरी करनी पड़ती- चार-पाँच साल के बच्चों को भी।		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
147.	023	14	CU workers' union banner : 'Wigan + District, Unity is strength, Cotton Operatives'.	In these circumstances, workers began to organise themselves.	निस्तिम:- इन हालात में मज़दूर तंगठित होने लगे।		
148.	026	11	Engraving showing workers, ^{with soldiers} about to attack them during riots, 1848.	In 1848	निस्तिम:- अठारह तौ अड़तालीस में		
149.	28	06	Engraving : Street-fighting scene near 14th of July column, Paris, 1848.	the cities of Europe witnessed a turmoil.	निस्तिम:- यूरोप के शहरों में एक हलचल मच गई।		
150.	031	31	Engraving ; Line of soldiers firing. Camera pans right across to show mixed group of workers, soldiers & farmers with banner saying 'REFORME', 1848.	Everywhere, people were fighting for their rights.	निस्तिम:- अब जगह-जगह पर लोग अपने अधिकारों के लिए लड़ने लगे।	Fade out	
151.	037	28	MS Nissim at table in Anchor-room.	Nissim (sync): Rather than a tool of social development, science had become a means of profit for capitalists. And a major part of their capital came from subjugated countries like India. Thus the age was full of contradictions, and all these things made an impact here as well.	निस्तिम:- [विज्ञान सामाजिक विकास का नहीं, पूंजीपतियों के मुनाफ़े का साधन बन गया था। और उनकी पूंजी का एक बड़ा हिस्सा आ रहा था भारत जैसे पराधीन देशों से। ये आपस में विरोधी बातों से भरपूर था वो समय, और इन सभी बातों का मिला-जुला अंतर यहाँ भी पड़ा]		
152.	049	22	Traffic in Park Street, Calcutta. Camera pans left to show Shehnaaz, crossing road, then further to the new Asiatic Society Building.	Shehnaaz (voiceover): Chowringhee, Calcutta. Many institutions formed under the British still exist. The Asiatic Society	शहनाज़:- चौरंगी, कलकत्ता। अंग्रेज़ों के ज़माने की बनी कई संस्थाएँ आज भी यहाँ हैं - एशियाटिक सोसायटी ,		Traffic

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
153.	056	23	Low angle - MS old Asiatic Society building. Camera tilts down to entrance. Shehnaz enters from right and walks towards plaque on wall.	was established in 1784, and was the main centre for European intellectuals. The Society	शहनाज़:- तब्रह तौ चौराती में स्थापित। यूरोपीय बुद्धी-जीवों का मुख्य केंद्र। इस सोसायटी में		Traffic, Footsteps
154.	061	16	CU plaque - 'The Library and meeting hall of the Asiatic Society of Bengal: was laid by William Jones, AD 1784.	held discussions on every topic -- on science and on culture. In the words	शहनाज़:- विज्ञान पर, संस्कृति पर, हर विषय पर चर्चा होती थी। इसके संस्थापक		
155.	065	08	CU portrait of William Jones.	of its founder, William Jones,	शहनाज़:- विलियम जोन्स के शब्दों में:	Fade in	
156.	066	26	Engraving - view of Masulipatnam harbour and town.	"We shall acquire knowledge of all things in Asia,	शहनाज़:- "हम एशिया के उन तमाम चीजों के बारे में मालूमता हासिल करेंगे ,		
157.	069	11	CU Botanical drawing.	"man-made and natural."	शहनाज़:- "जो आदमी और प्रकृति ने बनाई है।"		
158.	072	06	Low MS of exterior of Geological Survey of India Building, Shehnaz walking towards it.	After 1833, it was the official surveys that took forward the work of the Society on a large-scale, practical level,	शहनाज़:- अठारह सौ तैंतीस के बाद सोसायटी का काम सरकारी तर्ज ने ही आगे बढ़ाया - बड़े और व्यावहारिक पैमाने पर।	Fade out	Traffic, Footsteps
159.	078	19	CU name board - Geological Survey of India.	such as the Geological Survey, further down Chowringhee.	शहनाज़:- जैसे ये जियोलॉजिकल सर्वे, जो चौरंगी में आगे ही है।		Traffic
160.	081	16	MCU a rock sample, marked Upper Bhandar, Sandstone, Rupbas Quarries, Bharatpur.	--	--		
161.	083	16	CU a piece of quartz.	--	--		
162.	085	23	Low angle full shot Indian Museum. Camera pans left and tilts down to Shehnaz on the street.	Shehnaz (sync): In 1866, the famous Indian Museum of Calcutta was established.	शहनाज़:- [अठारह सौ छ्यांसठ में एशियैटिक सोसायटी ने कलकत्ता के मगहूर इंडियन म्यूज़ियम की स्थापना की।]		Traffic

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
163.	090	38	LS interior courtyard of the museum.	Shehnaaz (voiceover): Here the various surveys had their own galleries,	शहनाज़:- यहाँ अलग-अलग सर्वेज़ ने गैलरियाँ बनायी थीं ,		Fade out traffic
164.	093	28	MS Shelves of beakers and jars filled with samples of oils and aromatics. Shehnaaz enters from left behind them, and walks right.	in which samples of natural resources from all over India may still be seen. Why were those gentlemen so interested in all this ?	शहनाज़:- जिनमें भारत-भर के नैचरल रिसोर्सेज़ या प्राकृतिक तैपदा के विविध प्रकार के नमूने देखने को मिलते हैं। क्यों थी उन नों की इन सब में इतनी दिलचस्पी ?		Birds, Footsteps
165.	100	07	Engraving - a gathering of intellectuals, being addressed by a scholar.	Was it simply a hobby ? Or were the reasons the same as those that had drawn them	शहनाज़:- क्या उनका केवल शौक था ? या इसके पीछे वही कारण थे जो उन्हें खींचकर		Birds
166.	103	23	Detail of above - faces in the audience.	to India ? In the nineteenth century,	शहनाज़:- भारत लाए थे ? उन्नीसवीं सदी में		Birds
167.	105	31	MLS Shehnaaz in Museum, walking up to camera. Camera then pans right to specimens of plant fibres.	Shehnaaz (sync): British industry felt the need for crops that could either serve as raw material for their mills or be sold in the markets of the world. The result -- this is a collection of 15,000 varieties of plants, in the gallery of Calcutta's Botanical Survey.	शहनाज़:- [ब्रिटीश उद्योग को रस्सी फ़सलों की ज़रूरत महसूस होने लगी जिन्हें वो अपनी मिलों में कच्चे माल की तरह इस्तेमाल कर सकें या दुनिया के बाज़ारों में बेच सकें। नतीजा] - १५००० जातियों के वनस्पतियों का संग्रह है ये - कलकत्ता की बोटैनिकल सर्वे की एक गैलरी में।		Birds, Footsteps
168.	116	11	MS a panel of specimens. Camera pans right over them.	Shehnaaz (voiceover): Ayurveda too, centuries ago, had acquired much knowledge of plants, herbs etc. But by this time, that tradition had almost	शहनाज़:- वैसे तो आयुर्वेद ने भी सदियों पहले पौधों और जड़ी-बूटियों की काफी जानकारी हासिल की थी। पर अब तक ये परंपरा करीबन		Birds

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
169.	121	02	Low angle MS another panel of specimens of silk cocoons, worms, moth eggs etc. Camera moves anti-clockwise and pans left to include Shehnaaz walking towards camera.	Shehnaaz (sync): died out. The British had commercial reasons for the classification they did, but for this task they needed science and scientists. The top scientists in these institutions were all British,	शहनाज़:- मिट चुकी थी। अंग्रेज़ों ने ये जो वर्गीकरण किया उसके पीछे व्यापारिक कारण तो ये ही, पर [उनको अपने काम के लिए ज़रूरत थी विज्ञान और वैज्ञानिकों की। इन संस्थाओं में ऊँचे दर्जे के जो वैज्ञानिक थे वो तो अंग्रेज़ ही थे]		Birds, Footsteps
170.	132	06	Photograph - Indian technicians at work in Haffkine's Institute Laboratory.	Shehnaaz (voiceover): but much of the day-to-day work was done by Indians	शहनाज़:- लेकिन छोटे-मोटे काम करनेवाले तो भारतीय ही थे।		Birds
171.	134	20	Photograph - ship's officers and sailors taking sextant readings.	who were bound to learn, while working under the British.	शहनाज़:- अंग्रेज़ों के नीचे काम करते- करते कुछ तो वे सीखते ही।	Fade in	
172.	137	04	Photograph - a train about to enter a tunnel cut into the hillside.	In fact, they learnt a fair amount of modern science.	शहनाज़:- बल्कि काफी कुछ जाना उन्होंने, आधुनिक विज्ञान के बारे में।		
173.	140	20	Engraving - interior of a laboratory.	--	--	Fade out	
174.	142	00	Botanical drawing - a cotton boll with plant.	The classification and documentation	शहनाज़:- कच्चे माल की तरह इस्तेमाल होने वाली चीज़ों का		
175.	143	37	MCU Shehnaaz against black background.	of the things used as raw materials was done on such a large scale for the first time. These people went to forests and mountains,	शहनाज़:- [क्लासिफिकेशन और डॉक्यूमेंटेशन पहली बार इतने बड़े पैमाने पर हुआ। वो लोग जंगलों और पहाड़ों में गए]		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
176.	147	36	Photograph - English surveyors in camp with Indian coolies.	conducted archeological explorations,	शहनाज़:- पुरातत्व के चीजों का पता लगाने के लिए वे भटके।	Fade in	
177.	150	30	Photograph - group of Bhil Adivasis, taken by Lala Din Dayal.	wandered around with tribals. In their wanderings, they went into places	शहनाज़:- वो आदिवासियों के तंग भी घूमे। घूमने के दौरान वो स्ती जगहें भी गए		
178.	153	31	Photograph - an English surveyor at work in the mountains.	nobody had been to, before.	शहनाज़:- जहाँ पहले कोई नहीं गया था।		
179.	155	23	Detail of Ajanta fresco .	And the Ajanta caves,	शहनाज़:- और फिर अजंठा की गुफारें,		
180.	157	09	CU Harappen seal.	the forgotten Harappen settlements,	शहनाज़:- हड़प्पा की भूली हुई जगहें -		
181.	159	00	"Remains of an ancient building near Firoz Shah's Cotilla, Delhi" - aquatint by the Daniells.	all these were brought to our knowledge.	शहनाज़:- इन सब का भी ध्यान दिलवाया।		
182.	160	25	"Gate of the tomb of the Emperor Akbar at Secundra, near Agra" - aquatint by the Daniells.	These journeys, discoveries and new information helped us to know our resources and our history	शहनाज़:- इन यात्राओं, खोजों और जानकारीयों से हमने अपने रिसोर्स और इतिहास की		
183.	163	34	CU Botanical drawing of a plant.	better.	शहनाज़:- बेहतर समझ पायी।	Fade out	
184.	166	22	MCU Shehneaz against black background.	Shehneaz (sync): Those who worked in the surveys may have been British servants, but some were good scientists too. Like George Watt,	शहनाज़:- इन सर्वे में काम करने वाले लोग अंग्रेजों के कर्मचारी थे। लेकिन इनमें से कुछ अच्छे वैज्ञानिक भी थे - जैसे कि जॉर्ज वॉट		
185.	172	12	Portrait of Sir George Watt on wall.	Shehneaz (voiceover): who founded this museum.	शहनाज़:- इस म्यूजियम को बनानेवाला।		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
186.	174	25	Top angle MCU: Museum models of cotton fields, farmers, weavers, and bales being prepared for export. Shehnaaz walks from left to right behind. Camera moves with her.	The displays in this gallery reveal which crops the British encouraged -- such as cotton. They tried to get farmers to grow superior varieties of cotton,	शहनाज़:- इस गैलरी में रखी चीजों से मालूम होता है कि अंग्रेजों ने किन फसलों को आगे बढ़ाया, जैसे कपास। उन्होंने कोशिश की कि किसान कपास के बेहतर किस्मों की अपनाएँ।	Fade in	Birds
187.	181	27	Top angle MCU natural fibre specimens in glass cases. Camera tracks and pans right over them.	fibres like jute, silk and hemp, which were used in industries. And they started gardens	शहनाज़:- पटतण, रेगम, और गण जैसे रेशे, जिनका अद्योगों में उपयोग होता था। और उन्होंने बागानों को व्यवस्था शुरू की ,		
188.	188	35	Graphic - two workers gathering tea in a plantation.	for growing tea, coffee and indigo.	शहनाज़:- और चाय, कॉफी, नील पैदा करने लगे।		
189.	192	17	Longer shot of above.	--	--	Fade out	
190.	198	39	MS Shehnaaz against black background. She walks right. Camera tracks with her.	Shehnaaz (sync): In this way, much was done. But what did it mean for us? Our farmers were linked to world markets, but their technology did not change. New varieties of crops were coming in, but the burden of taxes was still the same. Farmers did earn a few rupees more, but to what extent	शहनाज़:- [और इस तरह से कई काम हुए। लेकिन हमारे लिए इसका मतलब क्या था? हमारे किसान दुनिया के बजार से तो जुड़े थे, लेकिन टेकनॉलजी तो वही थी। फसलों की कई नई जातियाँ आती रहीं, लेकिन लगान का बोझ तो वैसा का वैसा ही था। हुआ ये कि किसानों की हथेली पर कुछ स्मर तो जरूर आए लेकिन जीवन-स्तर में]	Fade in	
191.	209	37	Graphic - Farmers selling their produce at a cotton market.	Shehnaaz (voiceover): did their standard of living change?	शहनाज़:- कितना फ़र्क आया ?		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
192.	212	15	Graphic - villagers at home.	Historians	शहनाज़:- इतिहासकार		
193.	214	05	Graphic - English traders, and farmers at cotton market.	have been concerned with these questions.	शहनाज़:- इन्हीं तवालों को तमझने की कोशिश कर रहे हैं ।		
194.	217	06	Low angle, entrance of Hazarduari Mahal. Amrita enters from right and walks down the steps towards camera and left. Camera tracks with her.	Amrita (sync): Now people from different classes had begun to realize just how big a price they were having to pay for Plassey. With more people depending on farming for a living, land was in short supply. In addition, the British had raised taxes and were demanding payments in cash. They were taking over the forests, too, and the rights of the tribals were being eroded. And the British policy of usurping seats of power had the rajas and nawabs agitated too. The result of all this was -- 1857.	अमृता:- अब अलग-अलग वर्ग के लोगों के तमझ में आने लगा था कि प्लासी की कितनी बड़ी कीमत उनको चुकानी पड़ रही है। खेती पर गुजारा करने वालों की तादाद बढ़ जाने से ज़मीन कम पड़ने लगी थी। उपर से अंग्रेज़ों ने लगान भी बढ़ा दिया था और वो नकद मांगने लगे थे। फिर वो जंगलो पर कब्ज़ा करते जा रहे थे, और आदिवासी अपने अधिकार खोते जा रहे थे। अंग्रेज़ों की गद्दी हड़पने वाली नीति को देखकर राजा - नवाब भी तै मे आने लगे थे। इस तब का नतीजा था - तन् 1857]	Fade out	Birds, Footsteps
195.	243	11	Engraving - War of 1857 - British troops surrounding and defeating a group of Indian sepoy.	--	--		Fade in
196.	245	35	Engraving - War of 1857 - Indian sepoy on the march.	--	--		
197. (FN)	249	18	Travelling shot of sunrise in fields through trees, from right to left.	Shehnaaz (voiceover): That day of eleventh May, one morning in 1857	शहनाज़:- वो ग्यारह मई, 1857 की थी एक सुबह		Horses' hooves
198.	257	02	Travelling shot, as above.	rebel soldiers of the East India Company	शहनाज़:- वो एक सुबह, जब मेरठ में कुछ बागी फ़ौजी ईस्ट इंडिया कंपनी के		Horses' hooves

(Footnote: 197. This is a prose - poem leading up to the song. It should have poetic quality and intensity.)

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
199.	262	02	Travelling shot, as above.	left Meerut for Delhi.	शहनाज़:- दिल्ली की ओर चले।		Horses' hooves
200.	264	28	LS sun rising over river.	Dawn was breaking, when they reached the banks of the Yamuna.	शहनाज़:- पौ फटती थी, जब यमुना तट पर वो पहुँचे		Birds
201.	267	30	LS sun rising on river, silhouetted man in foreground.	Some inhabitants of Delhi were awake, some fast asleep,	शहनाज़:- दिल्ली वाले कुछ जागे थे, कुछ तोर थे,	Fade out	Birds
202.	270	32	MLS Red Fort in early morning.	that morning. Some in Delhi were fast asleep,	शहनाज़:- वो एक सुबह। दिल्ली वाले कुछ तोर थे,	Fade in	Birds
203.	276	06	Walls of Red Fort. Camera pans right over the ramparts.	but the guards at the Red Fort saw the rebels, and barred them from entering the Red Fort.	शहनाज़:- पर लाल किले के पहरेदारों ने देखा, और लाल किले में दाखिल होने से रोका।		
204.	288	02	Low angle MLS of a sentry - post on the wall, crows flying.	--	--		
205.	290	27	MS the ramparts.	They were barred from entering the Red Fort, but they could not be deterred.	शहनाज़:- लाल किले में दाखिल होने से रोका, वो बाग़ी लेकिन स्के नहीं।		
206.	293	37	Travelling shot (right to left) of buildings inside Red Fort, from exterior.	Some citizens of Delhi joined hands with them, and from the rear of the Red Fort	शहनाज़:- कुछ दिल्ली वाले साथ हुए, और लाल किले के पीछे से		Horses' hooves
207.	296	05	Travelling shot of walls, coming to a halt at back gate.	at last they found a way. At last they found a way.	शहनाज़:- एक रस्ता आख़िर ढूँढ लिया। एक रस्ता आख़िर ढूँढ लिया।		Horses' hooves
208.	300	38	LS an entrance in the wall of Red Fort.	--	--		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
209.	303	14	Slow track (right to left) of the Diwan-e-Aam in Red Fort, panning right.	They desired a meeting with Bahadur Shah to proclaim him their benefactor. Although he lived by the mercy of the British, the rebels, in a proclamation, named him Emperor of India.	शहनाज़:- वो चाहते थे, एक बार बहादुर शाह से मिलें और उनको रहनुमा मानें। और वैसे तो वो अंग्रेजों के रहम पर था। पर बागियों ने ऐलान किया, उसे शाह-ए-हिंद का नाम दिया।		
210.	313	07	LS marble throne of Diwan-e-Aam through arches.	--	--		
211.	315	03	Closer shot of the throne.	--	--		
212.	318	16	LS - Delhi Gate, present-day people passing, including Raghu.	All gates of the city were seized by the rebel troops. Delhi Gate.	शहनाज़:- शहर के सब दरवाजों पर इस बागी फौज ने कब्जा किया। दिल्ली गेट।		
213.	323	10	Pan from MS Raghu to top angle LS street in Delhi, left to Kashmiri Gate. Traffic.	Kashmiri Gate.	शहनाज़:- कश्मीरी गेट।		
214.	330	20	MLS Barudkhana (the Magazine) - scooter, cycles pass. Raghu looking up at inscription.	The gunpowder storehouse (magazine).	शहनाज़:- बास्द खाना।		Cannon FX
215.	334	04	MLS the inscription on top of Barudkhana gate, put up by the British.	--	--		"
216.	335	34	ECU of the Inscription, referring to 11 May, 1857.	Government offices were looted and seized.	शहनाज़:- सरकारी दफ्तर लूटे गए, दृष्टिगत जग। अंग्रेजों से		"

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
217.	339	09	ECU passing bus (windows): a wipe	Revenge was taken	बदला		
218.	339	26	CU plaque put up by the ASI, explaining the above inscription. Raghu enters, passes.	against the British. Whoever they came across was killed.	शहनाज़:- लिया गया, जो हाथ लगा उते मार दिया।		
219.	342	04	CU a peephole with cross- design on wall of Barud- khana. Raghu passes by from left to right, in MS.	--	--		Cannon FX
220.	345	11	LS Sr James' Church, Raghu walks into it.	On Kashmiri Gate, In St. James' Church, The memory of some names	शहनाज़:- कश्मीरी गेट पे, सेंट जेम्स गिरिजाघर में, कुछ नामों की तो		Cannon, Church bell
221.	350	12	Low angle MLS of wall inscription in the church.	still survives.	शहनाज़:- याद अभी तक बाकी है।		Church bell
222.	352	36	MS inscription, Raghu reading.	--	--		
223.	354	03	ECU the inscription - a memorial to George Berres- ford and family. Camera pans right over it.	--	--	Fade out	Gun shot
224. (FN)	361	17	Forward tracking shot through arches on Ring Road alongside Red Fort, following bus, truck etc.	And so exploded the ferment of '57 with the slogan of freedom. And it continued to grow.	शहनाज़:- ये ग़दर तत्तावन का फूटा, आज़ादी का नारा लेकर और बढ़ता गया।		Gun shots, hooves, drums
225.	373	24	MLS - peephole with cross- design.	--	--	Song (music)	
226.	376	04	MLS the Club House of the Residency in Lucknow.	--	--		
227.	378	09	Another view of the above.	--	--		

(Footnote: 224. This is a prose-poem leading up to the song. It should have poetic quality and intensity).

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
228.	380	24	LS the Memorial Cross.	--	--		
229.	382	16	Pan right over castle in the Residency.	--	--		
230.	387	06	LS Dr. Bailey's house.	--	--		
231.	389	02	Dark stage - Spot lights come on one by one, revealing Ranjan, Amrita, Shehnaaz and Raghu respectively, top angle.	<p><u>Ranjan:</u> A few sparks were enough</p> <p><u>Ranjan:</u> } for the fires to spread through every lane.</p> <p><u>Amrita:</u> }</p> <p><u>Shehnaaz:</u> } Suddenly those who were sleeping awoke.</p> <p><u>Ranjan:</u>) The clash of</p> <p><u>Amrita:</u>) sword and noise</p> <p><u>Shehnaaz:</u>) of cannon filled</p> <p><u>Raghu:</u>) the air.</p>	<p>रंजन:- उन्हीं चंद-चिंगारियों की बदौलत</p> <p>रंजन:- गली-दर-गली खुद-ब-खुद आग झुकी।</p> <p>अमृता:- अघानक वो तोर हुए लौज जागे,</p> <p>शहनाज:- रंजन, अमृता, रघु: छिड़ी जंग, तोपें चलीं, गाज कड़की।</p>		
232.	402	19	MS Amrita, spotlighted on stage. She moves left. Camera, too, tracks left, as the others walk into frame, exit, re-enter, to end on a composition of all four.	<p><u>Amrita:</u> No-one was 'Hindu' now, or 'Muslim'. All joined hands. All joined hands and a new community emerged.</p> <p><u>Raghu:</u> On the lips of farmers and craftsmen The same cry was heard.</p> <p><u>Shehnaaz:</u> But all around was disintegration, No leader came to the fore.</p> <p><u>Ranjan:</u> Kings and nawabs, too, were helpless, Foreign means were superior.</p>	<p>अमृता:- न तब कोई हिंदु रहा ना मुसलमानों। मिले तब। मिले तब नज़र एक नई कौम आई।</p> <p>रघु:- किसान और कारीगरों के भी लब से तुनाई हमें वो ही आवाज़ आई।</p> <p>शहनाज:- मगर हर तरफ़ एक बिखराव-ता था, कित्ती का भी नेता नहीं था कहीं पर।</p> <p>रंजन:- नवाब और राजा भी मजबूर से थे, विदेशी हुकूमत के ताथन ये बेहतर।</p>		
233.	427	00	Low angle MLS statue of Queen Victoria. Camera circles it anti-clockwise.	<p><u>All:</u> The reins of India were handed to the Empress, None could oppose her might.</p>	<p>तब:- गई हिंद की डोर रानी के हाथों, गई अखिं जितने भी नज़रें मिलाईं।</p>		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
234.	435	31	Amrita walks in dark stage from left to right. Camera tracks right with her, as others enter frame. Lights dim, then go off.	All: But the conflagration spread. The conflagration spread, and many more Mangal Pandey and Laxmibais came forth. (END OF SONG)	तब:- मगर आग आगे बढ़ी। मगर आग आगे बढ़ी, और आर कई मंगल पाण्डे, कई लक्ष्मीबाई।	End song	
235.	448	10	Low angle MLS a ruined tower of the castle in the Residency. Camera tracks left and tilts down as Raghu enters frame, walking left, then moves on to a cannon.	Raghu (sync): What plans were behind the war of '75, how was it organised, we do not know. There are legends--about chapatis and lotuses being sent as signals of some kind.	रघु:- तत्तावन की लड़ाई के पीछे कितनी योजना थी, क्या संगठन था, इन तवालों का हमारे पास कोई जवाब नहीं। कुछ कहानियाँ जरूर हैं, कि चपातियाँ और कमल के फूल संकेत के रूप में भेजे जाते थे।		Birds
236.	460	12	Top angle MLS ruins of castle. Camera pans right over them and tilts up to MS Raghu.	What is clear is that within a month the revolt had spread through northern India. Everywhere, the rebels burnt down courts, looted treasuries, freed prisoners. The rebellion was at its peak in Lucknow.	रघु:- इतना ताफ़ है कि महीने भर में उत्तर भारत विद्रोह की लपट में आ गया था। हर जगह विद्रोहियों ने कचहरियाँ जला डालीं, कोशखाने लूटे, जेल में भर्ती कैदियों को आज़ाद कर दिया। [लखनऊ में विद्रोह की आग अपनी शिखर पर थी]		Birds
237.	472	03	Engraving of the castle, taken after the events of 1857.	Raghu (voiceover): Here, at the British Residency, many Britishers	रघु:- यहाँ ब्रिटीश रेसिडेन्सी में, बहुत से अंग्रेज़ों ने		Birds
238.	474	18	Engraving - bearer tending wounded English officers during 1857.	took refuge.	रघु:- पन्हा ली थी।		Birds
239.	476	12	Inscription - 'The Tykhana'	--	--		Birds

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
240.	477	24	Top angle MLS Raghu goes down circular step - well to the Tykhana. Tilt down and track right, following him.	Many Britishers,	रघु:- बहुत तारे अंग्रेज - ✓		
241.	485	07	In the tykhana - camera tracks forward to Raghu as he enters from right and walks left, past pillars.	Raghu (sync): especially women and children, hid in this basement. The rebels besieged this area for months. The inhabitants of Lucknow supported the rebels to the hilt, one reason perhaps being that a year ago the British had deposed Nawab Wajid Ali Shah and usurped the state of Awadh.	रघु:- ज्यादातर बच्चे और औरतें - इत तैरवाने में छुपे रहे, विद्रोहियों ने इस इलाके को महीनों धेरे रखा। (जि) कदर लखनउ वालों ने विद्रोह का ताप दिया, [उत की एक वजह रही होगी कि ताल-भर पहले नवाब वाजिद अली शाह का अंग्रेजों ने हटाकर अवध राज्य हड़प लिया था।]		
242.	497	38	Engraving - British troops surround and attack Indian rebels.	Raghu (voiceover): The revolt did not spread all through the country. Nothing much happened in Punjab and Bengal.	रघु:- विद्रोह देश - भर में नहीं फैला। पंजाब और बंगाल में खात कुछ नहीं हुआ।	Music	
243.	505	00	MS Raghu walking in Residency club house. Camera tracks back and along with him, past row of engravings on wall.	Raghu (sync): South India was outside the domain of the revolt. It's worth noting that people from every community and class joined in--princes, soldiers, craftsmen. Unfortunately, this first war of independence	रघु:- [दक्षिण भारत तो विद्रोह के दायरे से बाहर ही रहा। और करने लायक बात ये है कि हर कौम के लोग हर वर्ग से आए - राजा, तिपाही कारीगर। अस्तोत इस बात का है कि आज़ादी की ये पहली]	Fade out	
244.	513	36	Engraving - British troops attacking Indian sepoy.	Raghu (voiceover): did not give birth to any capable leader.	रघु:- लड़ाई किसी काबिल नेता को जन्म नहीं दे सकी।		
245.	515	33	Engraving - interior of club house after events of 1857.	Everywhere	रघु:- जगह - जगह	Fade in	
246.	518	22	Wall frescoes from the Summer Palace at Srirangapatna depicting nobles bowing before king.	the rebels sought leadership from the same rajas, nawabs and land-lords	रघु:- विद्रोहियों ने लौट करके उन्हीं राजा, नवाब, ज़मीनदारों से नेतृत्व की माँग की,		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
247.	521	16	Wider shot of similar paintings, depicting courtly activities.	who were sunk in decadence and had only outdated ideas to offer.	रघु:- जो रेशो-आराम में और पुराने ख्यालों में डूबे थे।		
248.	524	14	A similar painting - women in a harem.	But yet,	रघु:- पर वैसे		
249.	526	07	Painting (water colour) - Bombay Street scene of 19th century.	by this time, a new consciousness had begun to grow.	रघु:- इस समय तक एक अलग चेतना बढ़ने लगी थी।		
250.	527	34	Graphic - collage of faces of different national leaders of that time.	And it was from this that the new leadership was to emerge.	रघु:- और इसी ने आगे जाकर नए नेतृत्व को जन्म दिया।		
251.	530	20	Graphic - water colour - montage of universities and schools of that time.	This consciousness came in with the new education.	रघु:- ये चेतना आई नई शिक्षा के साथ।	Fade out	
252. (FN)	533	12	MS Maitreyi in Anchor-room.	Maitreyi (sync): At first there was a prolonged debate on whether to emphasize Western science and literature or to encourage traditional learning. When the decision was made in favour of modern education, the debate turned to whether the medium of instruction should be English or the indigenous/native languages.	मैत्रेई:- पहले तो इसी बात पर विवाद होते रहे कि पश्चिमी विज्ञान और साहित्य पर जोर दें या पारंपरिक शिक्षा को ही आगे बढ़ाएँ। जब आधुनिक शिक्षा के पक्ष में फैसला हुआ, तब इस बात पर बहस छिड़ गई कि शिक्षा का माध्यम अंग्रेजी होना चाहिए, या देशी भाषाएँ।		
253.	543	27	MCU Nissim - Reaction.	Maitreyi (voiceover): Finally it was decided that education would be imparted in English.	मैत्रेई:- आखिर फैसला हुआ कि अंग्रेजी में ही पढ़ाई होगी।		

(Footnote: 252 - 254 Her tone is ironical, especially in 254. The so-called "hope" that education would spread is something she is questioning.)

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
254.	546	09	MS Maitreyi.	<u>Maitreyi (sync)</u> : Then a few chosen centres of higher learning were established-- with the hope that, through these few students, education would percolate down to the people in general.	मैत्रेई:- [फिर उच्च शिक्षा के गिने-चुने केंद्र स्थापित किए गए - इस आशा के साथ कि इन चंद विद्यार्थियों के द्वारा जन-साधारण तक धीरे-धीरे तो शिक्षा पहुंच ही जाएगी।]		
255.	553	35	MS Nissim.	<u>Nissim</u> : But the government was probably not interested in mass education. They simply needed a clerk or 'babu' category,	निस्तिम:- [पर सरकार की जन-शिक्षा में शायद ही दिल-चस्पी रही हो। उन्हें तो जरूरत थी एक क्लर्क या बाबू - वर्ग की।]		
256.	558	16	MCU Maitreyi - reaction shot.	to work in their expanding administration.	निस्तिम:- जो उनके बढ़ते हुए प्रशासन में नौकरी कर सके।		
257.	560	26	MS Nissim.	<u>Nissim (sync)</u> : It was becoming expensive to send for such people from England. Further, they hoped that in this way these (Indian) people would become loyal, thus reducing the risk of revolt.	निस्तिम:- [एसे लोगों को इंग्लैण्ड से बुलवाना महंगा पड़ रहा था। अगर ते वो ये भी चाहते थे कि इस तरह ये लोग वफादार बन जायें और यूं विद्रोह का संकट टलता जाएगा।]		
258. (FN)	567	21	MCU Maitreyi.	<u>Maitreyi</u> : As Macaulay said, such people would form a bridge between the government and its crores of subjects. They might have Indian blood, but they would be British in intellect.	मैत्रेई:- [जैसा कि मैकॉले ने कहा, कि एसे लोग सरकार के और करोड़ों की प्रजा के बीच एक माध्यम बनेंगे। उनका रक्त चाहे हिंदुस्तानी हो, पर बुद्धि ते तो वो अंग्रेज़ ही होंगे।]		

(Footnote: 258. The Macaulay quote: "Indian blood" and "British in intellect" are obviously racist phrases; this should be spoken with irony).

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
259.	574	31	MCU Nissim. Camera pulls back to LS Maitreyi and Nissim at table.	Nissim: But did this official plan wholly succeed? After all, the medium of education was English -- the same language in which Jefferson and Thomas Paine sang their praises to freedom, in which Newton and Darwin wrote. Educated Indians, too, used newspapers, pamphlets and speeches to speak of democracy, nationalism and equality, and to raise their voices against	निस्तिम:- (पर क्या ये सरकारी योजना पूरी तरह तफल हो पाई ? आखिर पढ़ाई का माध्यम था अंग्रेज़ी, वही भाषा जिसमें जेफरसन और टॉमस पेन ने आज़ादी के गुण गाए, जिसमें न्यूटन और डार्विन ने लिखा। पढ़े-लिखे भारत के लोग ने भी अखबारों, पुस्तिकाओं और भाषण के ज़रिए लोकतंत्र, राष्ट्रियता और तमानता की बातें कीं, साम्राज्यवाद के खिलाफ़ आवाज़)	Fade in	
260.	590	22	MLS residence of the Roy family in Radhanagar village. Shehnaaz enters from right and walks towards it.	colonialism. Shehnaaz: In this village of Radhanagar near Calcutta, Ram Mohan Roy was born in 1772. Bengal was	निस्तिम:- उठायी। शहनाज़:- (कलकत्ता के पास) राधानगर के इत (गाँव में) 1772 में राम मोहन राय का जन्म हुआ। बंगाल में		Footsteps
261.	600	03	Graphic - abandoned village during a famine.	Shehnaaz (voiceover): in the grip of a terrible famine. There was a six-year drought, lakhs of people were dying.	शहनाज़:- भयंकर अकाल थी। लगातार छह साल सूखा पड़ा, लाखों लोग मर रहे थे।		
262.	603	27	Graphic - villagers sitting hopelessly outside their homes.	But the British continued to collect their taxes.	शहनाज़:- मगर अंग्रेज़ अपना लगान वसूलते रहें।		
263.	605	29	Graphic - peasant paying taxes to zamindar.	--	--		
264.	607	16	CU of bags containing silver (detail).	--	--		
265.	609	10	CU the peasants (detail).	The discontent of the farmers grew.	शहनाज़:- किसानों का असंतोष बढ़ता गया।		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
266.	610	39	CU the zaminder and munim (detail)	And there were several uprisings against the British and the landlords.	शहनाज़:- ओर अंग्रेजों व ज़मीन-दारों के खिलाफ कई आंदोलन छिड़े।		
267.	613	20	Graphic - zaminder's private soldiers on horseback, chasing rebels.	These rebellions were mercilessly put down,	शहनाज़:- इन आंदोलनों को बेरहमी से कुचला गया,		
268.	616	00	Graphic - peasant rebel on horseback.	but the names of people like Bhavani Pathak and Raghunath	शहनाज़:- पर भवानी पाठक और रघुनाथ जैतों के नाम।		
269.	617	29	Graphic - rebels on horseback.	carved their place in the hearts and minds of people. During all this,	शहनाज़:- लोगों के दिल और दिमाग पर छाप रहे। इसी तब के दौरान		
270.	620	21	Graphic - the child Ram Mohan Roy with book.	Ram Mohan was educated. He read Sanskrit texts	शहनाज़:- राम मोहन ने शिक्षा पाई, संस्कृत पुस्तकों का पाठ किया,		
271.	623	04	Wider composition of the above - Roy ext to a palanquin, about to leave home for studies.	as well as works in Persian and Arabic.	शहनाज़:- फारसी व अरबी किताबों से तालीम हासिल की।		
272.	626	37	MS pillars of a Brahmo temple at the Roys' residence, Radhanagar. Shehnaaz emerges from left, behind one, and walks right through pillars. Camera tracks with her.	Shehnaaz (sync): because he was from a rich landlord family, he had the opportunity to study. He must have been an unusual student. He studied the Hindu, Muslim and Christian faiths, learnt French, Latin, Greek, Hebrew and other languages.	शहनाज़:- क्योंकि वो एक अमीर ज़मीनदार परिवार के थे, उन्हें पढ़ाई का मौका मिला। वो एक विशेष विद्यार्थी रहे होंगे। उन्होंने हिन्दु, मुसलमान, इताई धर्मों का अध्ययन किया। वो फ्रेंच, लैटिन, ग्रीक, हीब्रू और अन्य भाषाएँ भी सीख गए।		Birde

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
273.	638	37	LS the temple. Shehnaaz emerges and walks right to house.	Thus he absorbed new western ideas along with ancient thought/wisdom.	शहनाज़:- [ये उन्होंने प्राचीन चिंतन के साथ - साथ नए पश्चिमी विचार भी अपनाए]		
274.	643	10	CU inscription on the residence of the Roys' house at Calcutta.	Shehnaaz (voiceover): On growing up, Ram Mohan came to live in Calcutta.	शहनाज़:- बड़े होकर राममोहन कलकत्ता रहने आए।		
275.	646	00	Low angle MLS the gateway of same house, now "Office of the DCP, Calcutta Police." Shehnaaz enters from right and walks through gate.	He started many newspapers. A number of educated people joined him in the effort to foster a new consciousness/awareness.	शहनाज़:- कई अखबार शुरू किए। नई चेतना लाने के प्रयास में बहुत से पढ़े - लिखे लोग उनके साथ आए।		Foot-steps, traffic, birds
276. (FN)	651	14	In the same compound - Shehnaaz enters frame from right in MLS.	Shehnaaz (sync): Their demands were--that land taxes be reduced, the East India Company's monopoly on trade be ended, the heavy taxes on finished Indian goods be removed, Indians have equal rights to justice, and racial discrimination cease so that Indians could have equal access to education and	शहनाज़:- [उनकी मांगें थीं - ज़मीन लगान कम कर दिया जाए, व्यापार पर ईस्ट इंडिया कंपनी का अकेला अधिकार खत्म हो, हिंदुस्तानी तैयार माल पर ते भारी टैक्स हटा दिया जाए, हिंदुस्तानियों को न्याय का बराबर हक मिले, और रंग-भेद खत्म हो ताकि हमें शिक्षा और रोज़गार में बराबर का]		Foot-steps, birds
277.	665	31	LS of the house, Shehnaaz enters from right in LS, walks up.	employment. Shehnaaz (sync): He laid great stress on education. He was convinced that science and reason alone could lay the foundations of a modern India. And so, science education was necessary. He helped people in starting countless schools, colleges and libraries, and here in his Calcutta house--	शहनाज़:- दर्जा मिले। शहनाज़:- [उन्होंने शिक्षा पर बहुत जोर दिया। उन्हें विश्वास था कि विज्ञान और विवेक ही आधुनिक भारत की नींव बन सकती है। इतनी लिए विज्ञान की तालीम ज़रूरी थी। उन्होंने अनगिनत स्कूल, कॉलेज और लाइब्रेरीज़ खोलने में लोगों की मदद की - और खुद भी, यहाँ अपने घर में,		Birds, footsteps

(Footnote: 276. The Hindi "rang bhed" should not be translated as colour bar--the situation was not of an apartheid type.)

<u>S.No.</u>	<u>Footage</u> <u>Ft.</u> <u>Fr.</u>	<u>Shot Description</u>	<u>Dialogue</u>	<u>Dialogue</u>	<u>Music</u>	<u>Sound Effects</u>
277.	continued					
278.	678 21	Low angle MS of the house. Camera tilts down to entrance (porch)	<u>Shehnaaz (voiceover):</u> now a police office-- he opened a school. He laid emphasis on useful sciences such as mathematics, chemistry, astronomy, anatomy etc. Ram Mohan Roy	शहनाज़:- जो कि आज एक पुलिस ऑफिस है, एक स्कूल खोला। इस स्कूल में उन्होंने विज्ञान के उपयोगी विषयों पर जोर दिया - जैसे कि गणित, केमिस्ट्री, अस्ट्रॉनमी अनेटमी वगैरह। राम मोहन राय		Birds
279.	687 20	Framed oil painting of R.M. Roy. Camera tracks into MCU of Roy.	was in the vanguard of those who attempted to incorporate the new western thinking and ideas into our society. In this there was no sense of imitating the west rather, there was the dream of a new India, in which there would be no backwardness or discrimination, in which men and women would be considered equal.	शहनाज़:- उन लोगों में अगुआ थे जिन्होंने पश्चिम के नए तोच और विचार को अपने समाज में उतारना चाहा। इतमें पश्चिम की नकल की भावना नहीं, बल्कि एक नए भारत का तपना था, जितमें पिछड़ापन न रहे, भेद-भाव मिट जाए, आदमी और औरत को समान माना जाए।	Fade in	
280.	702 07	CU covers of works of Ram Mohan Roy.	--	--		Fade out
281. (FN)	706 19	LS Maitreyi and Nissim at table in Anchor room. Camera moves forward to MCU Maitreyi.	<u>Maitreyi (sync):</u> Rationalism, humanism--many social reformers besides Ram Mohan Roy stressed these features. For example, Jyotiba Phule in Maharashtra, Viresalingam in Andhra, Kumaranashan in Kerala. Ideas of equality had played a major role in the French and American revolutions. And now it was becoming apparent in Europe how science and technology could become the basis of human progress.	मैत्रेई:- रेशनलिज़्म, ह्यूमनिज़्म-- बुद्धिवाद और मानववाद। राम मोहन राय के अलावा कई समाज सुधारक इन बातों पर जोर देने वाले थे, जैसे महाराष्ट्र में ज्योतिबा फुले, आंध्र में विरेगलिंगम, केरल में कुमारन आशाष। समानता के विचार ने फ्रांस और अमरीका की क्रांतियों में भूमिका निभाई थी। और		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	10/44
	Ft.	Fr.					Sound Effects
281.	(continued)						
						अब यूरोप में ये तिब्बत हो रहा था कि किस तरह विज्ञान और टेक्नॉलॉजी मानव-विकास का आधार बन सकते हैं।	
282.	725	25	Shekhavati wall - painting of a train, with passengers. Camera pans right across to engine, with driver.	--	--		Steam engine
283.	732	19	Tracking shot from inside train, of yard with steam engines, at the Rail Museum, Delhi. Train moves into tunnel.	--	--		Train
284.	743	16	Forward tracking shot. Through window of engine - the scene as the train emerges from tunnel.	Ranjan: Barely thirty years after the first train	रंजन:- ब्रिटेन में पहली रेल गाड़ी के चले हुए		Train
285.	747	39	MLS Ranjan in the moving train. Camera pans right to Museum yard with steam engines.	ran in Britain, India's first train ran between Bombay and Thane in 1853. Within seven years, over thirteen hundred kilometres of rail lines had been laid.	कुछ तीत - एक साल ही बीते थे, कि भारत की पहली रेलगाड़ी भी चल दी, 1853 में, बम्बई और ठाणे के बीच। और सात साल के अंदर - अंदर तेरह ती से अधिक किलोमीटर तक की रेल लाईनें बिछाई गईं।	"	
286.	760	16	MLS Amrita waiting on the platform as the train approaches, stops. Ranjan emerges.	By the end of the nineteenth century, we had twenty five thousand kilometres of tracks. By 1910, Indian railways thus formed the fourth largest	रंजन:- उन्नीसवीं सदी के खत्म होते तक तो पच्चीस हजार कि. मी. तक की पट्टीयों लग चुकी थीं। इस तरह भारतीय रेल ने 1910 तक संसार में चौथी जगह		Train, bell.
287.	773	07	CU insignia of Gaekwad's Baroda State Railways.	network in the world.	रंजन:- हातिल कर ली।		Train

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
288.	774	31	CU insignia of Darjeeling Himalayan Railway.	--	--		Train
289.	777	08	CU insignia of Bengal and Nagpur Railway	--	--		Train
290.	779	09	CU insignia of BB & CI Railway.	--	--		Train, bells
291.	782	03	CU insignia of GIP Railway.	--	--		Train, bells
292.	784	38	Top angle MS model of a steam engine. Camera tracks right and tilts up to Amrita standing behind it.	Amrita (voiceover): It seemed so strange--at the same time as the old craft centres were on the wane, and the country was going through so many difficulties, these railway lines were being laid at such speed, as though it was an age of great progress.	अमृता:- कैला अजीब लगता है - उत वक्त, जब पुराने हस्तकला उद्योगों के केंद्र मिट रहे थे और देश इतनी तकलीफों से गुजर रहा था, [तभी रेल लाईने तेजी से बिछाई जा रही थीं जैसे खूब तरक्की हो रही हो]		Birds
293.	794	06	MS Ranjan, models in background.	Ranjan (sync): That's just it. The railways did not develop the country's interior. They were laid to serve the interests of those who ruled.	रंजन:- [यही तो बात है। रेल्वे ने देश की भीतरी इलाकों का विकास नहीं किया। रेल्वे लाईनें तो राज करने वालों के फायदे के लिए बिछाई गई थीं]		Birds
294.	800	08	Pen and ink sketch of a train drawn by a steam engine, going through the Indian countryside.	Ranjan (voiceover): Long track lines linked the remote interiors	रंजन:- उन्होंने यहाँ पर लंबी-लंबी ट्रंक-लाईन्स बिछा कर		Birds
295.	802	24	Pen and ink sketch of a train drawn by a steam engine, going through the Indian countryside.	only to the major ports,	रंजन:- अंदर के इलाकों को तिरफ़ बड़े बंदरगाहों से जोड़ा।		Birds

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	10/46
	Ft.	Fr.					Sound Effects
296.	804	35	Graphic - map of western India, railway lines from Bombay, branching out. Camera zooms out to include whole of India.	so that the country's raw materials could go out and Britain's finished goods come in. And, yes, cantonments	रंजन:- ताकि देश का माल बाहर जा सके और ब्रिटेन में तैयार सामान अंदर आ सके। और बत, कन्टोन्मेन्ट		Birds
297.	810	19	Low angle MLS military rail wagons.	were linked up, for the convenience of their troops.	रंजन:- को जोड़ा गया, उनकी फीजों की सुविधा के लिए।		Birds
298.	813	07	Frontal MS the 'Fairy Queen' - locomotive engine. Amrita enters from right.	Amrita (sync): So railways were yet another technology that was used for empire building,	अमृता:- रेलवे एक और तकनीक थी जिसे [साम्राज्य को फैलाने का काम लिया गया]		Birds
299.	816	03	Alongside the 'Fairy Queen'. Ranjan enters from right and walks left. Camera tracks with him. He climbs into engine where Amrita is.	isn't that so ? Ranjan: Well, track-laying did give employment to thousands, and as railway, irrigation and road-building works expanded, trained Indians were increasingly needed. And the British started civil engineering and surveying courses. They did all this for their own gain, but for India it was the beginning of modern technical education.	अमृता:- यही ना ? रंजन:- [वैसे लाईने बिछाने से हजारों लोगों को नौकरी मिली। और जैसे जैसे रेलवे, सिंचाई और सड़कों का काम बढ़ा, इनके लिए प्रशिक्षित भारतीयों की जरूरत बढ़ी। और अंग्रेजों ने सिविल इंजिनियरिंग और सर्वेयिंग के कोर्स शुरू किए। ये सब उन्होंने अपने फायदे के लिए किया, पर भारत के लिए यही आधुनिक तकनीकी शिक्षा की शुरुआत थी]		Birds
300.	834	21	MS Engine seen from driver's viewpoint. Camera pans left to Amrita in driver's place.	Amrita: That's all very well, but they didn't introduce courses in mechanical engineering. Nor were we allowed to build our own engines. Listen to this--	अमृता:- वो तो ठीक है, पर उन्होंने मैकेनिकल इंजिनियरिंग की पढ़ाई का [कोई इंतजाम नहीं किया, और ना ही हमें अपने इंजन बनाने दिए। ये तुम]		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
301.	838	39	The plates of various engine manufacturers.	Amrita (voiceover): Between 1865 and 1941,	अमृता:- 1865 से 1941 के दरमियान		
302.	841	33	Wider view of above panel - track right to Amrita standing before it, and past her.	some twelve thousand engines were imported, while only seven hundred were built here. These manufacturers' plates in the museum are an indication. Why were workshops for building engines not set up here? Ranjan (voiceover): In fact, this was the policy	अमृता:- कोई बारह हजार इंजन बाहर से मंगवाए गए, जब कि तिर्फ तात तो यहाँ बने। एम्प्लियमेंट में लगे मैन्यूफैक्चरर्स प्लेट को देखकर भी अंदाज़ा लगाया जा सकता है। इंजन बनाने के कारखाने उन्होंने यहाँ क्यों नहीं लगाए ? रंजन:- दरअसल यही रवईया उन्होंने		Birds
303.	852	23	Low angle MS a luxury bogie. Amrita climbs on to it, peeps through the window into the cabin.	they followed in all industries. All the machinery came from abroad, nothing was manufactured here.	रंजन:- तारे उद्योग - धंधों के लिए अपना रखा था। तारी मशीनरी बाहर से मंगवाई जाती थी, यहाँ कुछ भी नहीं बनता था।		Horn, train
304.	857	04	MS a mirror in the cabin. Reflection of Ranjan & Amrita can be seen as they enter and look around the cabin.	It's the same age-old problem. For centuries, those who dealt in theory remained separate from the artisans and others who worked with their hands.	रंजन:- वही पुरानी समस्या है न आखिर! सदियों तक थियरी जानने-बनाने वाले विद्धान अलग रहे, और अपने हाथों से काम करने वाले दस्तकार वगैरह अलग।		Train
305.	864	32	CU steering mechanism of the train.	We paid the price for this separation. Only if the two had come together	रंजन:- इत अलगाव की दृष्टि कीमत चुकानी पड़ी। इन दोनों के मेल से ही		Train
306.	867	34	Longer shot of the above. Amrita enters from right and looks at gear.	might we have had an Industrial Revolution. But that happened elsewhere.	रंजन:- औद्योगिक क्रांती ही सकती थी। जो हुई, कहीं और।		Train

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
307.	872	34	MS the wheels of the engine. Ranjan enters from right and walks left in front of them. Camera tracks with him, to include Amrita. They both walk left, around engine and exit, as camera circles clockwise and stops at MLS front of engine.	<p>Ranjan (sync): When some Indians recognized the need for modern science and asked for it, the British were hardly going to give it all to us so easily. They hadn't come here to make us a gift of their knowledge!</p> <p>Amrita: We're talking as if we were discussing a news report in today's paper!</p> <p>Ranjan: Well, is all this less significant than any news report?</p>	<p>रंजन:- जब इस देश के कुछ लोगों ने [आधुनिक विज्ञान को ज़रूरी तमझकर उतकी मांग की, तो अंग्रेज़ हमें आतानी ते तब कुछ नहीं देने वाले थे। वो अपना ज्ञान हमें बक्षने तो यहाँ नही आर थे।]</p> <p>अमृता:- [हम ऐसे बात कर रहे हैं जैसे आज के अखबार में छपी किसी न्यूज़ रिपोर्ट को पढ़ कर।]</p> <p>रंजन:- [अरे, किसी भी न्यूज़ रिपोर्ट ते क्या कम है इन बातों का महत्त्व।]</p>		Birds
308.	886	29	Top angle LS electric trains. Camera pans left and tilts up to Howrah Bridge in background, zooming in.	<p>Shehnaaz (voiceover): Apart from the railways, British rule also needed the telegraph, canals, roads, bridges etc. For the functioning of all these, Indians began to be given some education and training. A number of engineering colleges were started, in which the emphasis was on civil engineering alone.</p>	<p>शहनाज़:- रेल्वे की तरह, टेलिग्रेफ, कनाल, तड़के, पुल वगैरह भी अंग्रेज़ी हुकूमत के लिए ज़रूरी थे। इन सब को चलाने के लिए हिंदु-स्तानियों को थोड़ी बहुत शिक्षा और ट्रेनिंग दी जाने लगी। कई इंजिनियरिंग कॉलेज खोले गए जिनमें तिविल इंजिनियरिंग पर ही ज़ोर दिया गया।</p>		Train, birds
309.	898	20	Closer shot of the bridge. Bus passes in front.	<p>Roorkee in 1848, Pune in '54, Madras in '55,</p>	<p>शहनाज़:- 1848 में रूरकी, चौपन में पूना, पचपन में मद्रास,</p>		Bus

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
310.	902	25	MS centenary gate of Bengal Engineering College. Camera pans right over to Shehnaaz walking through gate, away from camera.	And in '56 the Bengal Engineering College here, which was begun by the Public Works Department. However, these colleges awarded only licences, not degrees.	शहनाज:- फिर छप्पन में ये - बंगाल इंजिनियरिंग कॉलेज, जिते पब्लिक वर्क्स डिपार्टमेंट ने गुरु किया। वैसे इन सब कॉलेजों में विद्यार्थियों को डिग्री नहीं, बस लाईसन्स दिये जाते थे।		Footsteps
311.	910	09	Low angle MLS top of the Medical College Hospital. Camera tilts down to Shehnaaz.	Shehnaaz (sync): In such matters the policy is one thing but the outcome quite another. Many British officers and scientists were personally interested in science. Though they were employees of the East India Company, they emphasised modern education, and helped disseminate science themselves.	शहनाज:- ऐसे मामलों में नीति कुछ होती है, और होता है कुछ और। बहुत से अंग्रेज अफसरों और वैज्ञानिकों की अपनी [स्वी] विज्ञान में ही थी, चाहे वो ईस्ट इंडिया कंपनी की नौकर रहे हों। उन्होंने आधुनिक शिक्षा पर भी जोर दिया और खुद भी विज्ञान का प्रचार किया।		Birds
312.	921	06	LS Writers' Building in Calcutta, tram passes in front of it from left to right.	Shehnaaz (voiceover): In the early decades of the nineteenth century, the government, too, had not discouraged the spread of western education.	शहनाज:- वैसे उन्नीसवीं सदी के गुरु के दशकों में सरकार ने भी पश्चिमी शिक्षा के फैलाव में रोकथाम नहीं की थी।		Traffic
313.	925	21	LS G.P.O. Camera pans right over buildings around Dalhousie Square, stopping at Writers' Building, Shehnaaz in foreground in MCU.	But after '57 their attitude in this respect changed. It was explicitly declared that the people of this country were not yet capable of absorbing modern science and new ideas.	शहनाज:- पर तब तत्काल के बाद इस मामले में उनका रवईया कुछ बदल गया। [ताफ़] शब्दों में कहा गया कि इस देश के लोग अभी इस लायक ही नहीं हैं कि आधुनिक विज्ञान और नए सोच-विचार ग्रहण कर सकें।		Traffic

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
314.	935	36	Low angle MLS Presidency College. Camera pans right to top of entrance.	Undoubtedly this harshness had a cause. A new, educated class was emerging, and some of these people were using their newly acquired knowledge to question the policies of the British government.	गहनाज़:- बेगम इत तखती के पीछे कुछ वजह थी। पढ़े-लिखों का एक नया वर्ग बनता जा रहा था, जितमें ते कुछ लोग अपने नए ज्ञान का इस्तेमाल करके अंग्रेज़ सरकार की नीतियों पर तवाल उठाने लगे थे।	Fade in	
315.	945	21	Top angle MS a book - "A Century" on table. Amrita's hand picks it up.	Amrita (voiceover): I've been thinking about those students	अमृता:- मैं उन स्टूडेंट्स के बारे में सोच	Fade out	
316.	948	18	MS Amrita in Anchor room. Camera pulls back to include Maitreyi & Nissim, all three in LS. Amrita opens book.	Amrita (sync): who went to places like Roorkee and Grant Medical College. How many among them would have seen in science anything more than a government job? Did they ever think of the potential role of science in the country's future? How many students had a dream that perhaps one day we could free ourselves from poverty with the help of modern technology? Did the idea of taking science to the people enter anyone's mind? These questions arose when I went to Calcutta from Murshidabad this time. For I learnt about a person who had given serious thought to these problems-- Mahendralal Sircar, who had studied at Calcutta Medical College.	अमृता:- [रही थी, जो रूकी, ^{ग्रान्ट} मेडिकल कॉलेज, एसी जगहों में पढ़ते थे। उनमें से कितनों को विज्ञान में सरकारी नौकरी से बढ़कर कुछ नज़र आया होगा? देश के भविष्य में, विज्ञान की भूमिका के बारे में क्या वो कभी सोचते थे? तकनीकी प्रशिक्षण पानेवाले कितने विद्यार्थियों ने सपना देखा होगा कि आधुनिक टेकनॉलजी की मदद से हम अपनी गरीबी दूर कर सकते हैं? साधन को लौंगो तक पहुँचाने का ख़याल क्या कित्ती के मन में आया होगा? ये तारे तवाल तामने आर जब मैं इत बार मुर्शिदाबाद से कलकत्ता गई थी, क्योंकि मैंने एक ऐसे व्यक्ति के बारे में जाना जिन्होंने इन समस्याओं पर गंभीरता से सोचा था। वो थे महेंद्रलाल सरकार, जिन्होंने कलकटा मेडिकल कॉलेज से पढ़ा था]		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound effects	Pages turning
	Ft.	Fr.						
317.	975	09	Top angle CU Amrita's hand opening book. She turns pages to portrait of Mahendra Lal Sarkar.	Amrita(voiceover): Mahendralal really began his work in 1869. In the 'Calcutta Journal of Medicine'	अमृता:- महेंद्रलाल ने अपना काम वैसे गुरु किया 1869 में। कलकटा जर्नल ऑफ मेडिसिन			
318.	979	06	MCU Nissim - Reaction.	he wrote: "We want an institution	अमृता:- मैं उन्होंने लिखा है - "हम ऐसी संस्था चाहते हैं ,			
319.	981	18	LS Maitreyi, Amrita & Nissim. Amrita reads from book. Camera tracks in to MCU Amrita.	Amrita (sync): which shall be for the instruction of the masses, where lectures on scientific subjects will be systematically delivered, and not only illustrative experiments performed by the lecturers, but the audience should be invited and taught to perform them themselves. And we wish that the institution be entirely under native management	अमृता:- जो आम जनता के प्रशिक्षण के लिए हो, जहाँ विज्ञान के विषयों पर नियमित रूप से व्याख्यान दिए जाएँ और अध्यापक न सिर्फ उदाहरण के तौर पर प्रयोग करके दिखाएँ, पर वहाँ इकट्ठा लोगों को भी आमंत्रित किया जाए कि वो सामने आएँ और उन्हें खुद प्रयोग करना सिखाया जाए। हम मानते हैं कि इस संस्था का प्रशासन और नियंत्रण पूरी तरह से भारतीयों के हाथ में			
320.	995	26	MCU Nissim.	and control." Nissim (sync): Who, however, could give money for such an institution? Rajas, landlords, big merchants. But when Mahendralal Sircar went to them with his project for the Indian Association for the Cultivation of Science, he received assurances rather than money.	अमृता:- होना चाहिए। निस्सिम:- पर ऐसी संस्था को पैसा कौन दे सकता था ? राजा, ज़मीनदार, बड़े - बड़े व्यापारी। लेकिन जब महेंद्रलाल सरकार इंडियन असोसिएशन फॉर द कल्चिवेशन ऑफ सायन्स का प्रोजेक्ट लेकर ऐसे लोगों के पास गए, तो उनको आश्वासन ज्यादा मिला, पैसे कम			

<u>S.No.</u>	<u>Footage</u> <u>Ft. Fr.</u>	<u>Shot Description</u>	<u>Dialogue</u>	<u>Dialogue</u>	<u>Music</u>	<u>Sound Effect</u>
321.	1007 27	MCU Maitreyi - Reaction	Nissim (voiceover): These rich people must barely have comprehended his aims.	निस्तिम:- ये अमीर लोग शायद ही महेंद्रलाल का उद्देश्य समझ पाये होंगे।		
322.	1011 36	MCU Nissim.	Nissim (sync): Education for the masses? Why? Of what use will experiments be? And why learn to do it yourself? Mahendralal was speaking of self-reliance and	निस्तिम:- [जन - साधारण के लिए शिक्षा? किस लिए? प्रयोगों से फायदा कैसा? और खुद करने की क्या ज़रूरत? महेंद्रलाल तो बात कर रहे थे स्वावलंबन की] -		
323.	1017 19	MCU Amrita- Reaction	of a scientific culture. His aim was	निस्तिम:- एक वैज्ञानिक संस्कृति की। उनका मकसद था		
324.	1019 30	MCU Nissim.	that students in this country have the opportunity to do research, that science be used for the good of society, that applications useful for production	निस्तिम:- [कि इस देश के विद्यार्थियों को रिसर्च करने का अवसर प्राप्त हो, विज्ञान जनहित के काम आए, ऐसे उपयोग खोजे जाएँ जो उत्पादन के क्षेत्र में]		
325.	1026 15	MCU Amrita.	be found. Amrita: At last the centre was set up. It was smaller and more modest than planned, but was independent.	निस्तिम:- लागू हों। अमृता:- [आखिर केंद्र की स्थापना हुई। जैसा तोचा था, उससे छोटा और साधारण, पर स्वाधीन।]		
326.	1030 31	MS Maitreyi. Camera pulls back to LS all three then moves in to MS Nissim.	Maitreyi: His faith in self-reliance was not unique. By the end of the nineteenth century, a new political awareness was spreading through the country, a new spirit of nationalism emerging. In 1885, the Indian National Congress was born. The ideals of the Congress matched the ideas of Mahendralal. Both stressed democracy and nationalism.	मैत्रेई:- [वैते आत्मनिर्भरता पर उनका विश्वास कोई अनोखी बात नहीं थी। उन्नीसवीं सदी के अंत तक देश भर में एक नया राजनैतिक जागरण फैल रहा था, राष्ट्रियता की नई भावना बन रही थी। तब 1885 में इंडियन नेशनल कांग्रेस का जन्म हुआ। कांग्रेस के आदर्श और महेंद्रलाल के विचार काफी मिलते थे। लोकतंत्र और		

S.No.	Footage		Shot Description	Dialogue	Dialogue	Music	Sound Effects
	Ft.	Fr.					
326.	continued			<p><u>Amrita</u>: Congress members like Surendrenath Banerjee were with him.</p> <p><u>Maitreyi</u>: Yes, and later the links between scientists and freedom fighters grew even stronger.</p> <p><u>Nissim</u>: And in this climate, a new generation of scientists came to the fore. Several worked at the Indian Association for the Cultivation of Science-- Prafulla Chandra Ray, Jagdish Chandra Bose, Ashutosh Mukherjee and, later, C.V. Raman and Meghnad Saha.</p>	<p>राष्ट्रवाद, इन्हीं पर दोनों ने ही जोर दिया]</p> <p>अमृता:- [कॉन्ग्रेस के लोग उनके साथ थे - जैसे सुरेन्द्र नाथ बॅनर्जी]</p> <p>मैत्रेई:- [हाँ, और आगे चलकर तो विज्ञान से जुड़े लोग और आजादी के लिए लड़ने वाले - इनके बीच के संबंध और भी घने होते गए]</p> <p>निस्तिम:- [और वैज्ञानिकों की एक नई पीढ़ी इसी माहौल में उभर कर आई। उसमें कई ऐसे लोग थे जिन्होंने इंडियन असोसिएशन फॉर द कल्चिवेशन ऑफ साइन्स में काम किया - प्रफुल्ल चंद्र राय, जगदीश चंद्र बोस, आशुतोष मुखर्जी, और बाद में सी.वी. रामन और मेघनाद साहा]</p>		
327.	1065 06	to 1135 19	<p><u>Credit Titles (roll up)</u></p> <p>EPISODE X</p> <p>Produced by COMET PROJECT at Nehru Centre, Bombay, 1989</p> <p>advisory committee chairperson PROF YASHPAL, members D.P. AGRAWAL, B K CHATURVEDI, VASANT GOWARIKER, ASHOK JAIN, N V K MURTHY, A RAHMAN, VINOD RAINA,</p>				

<u>S.No.</u>	<u>Footage</u> <u>Ft. Fr.</u>	<u>Shot Description</u>	<u>Dialogue</u>	<u>Dialogue</u>	<u>Music</u>	<u>Sound Effects</u>
		Credit Titles (Continued)				
		N K SEHGAL, SHIV SHARMA, ASIYA SIDDIQUI, B V SUBBARAYAPPA, UPENDRA TRIVEDI, B M UDGAONKAR				
		anchorpersons				
		Nissim HEMU ADHIKARI Maitreyi VASUNDHARA PHADKE				
		reporters				
		Amrita Prasad URMI JUVEKAR Shehnaaz Khan SOHAILA KAPUR - LIMAYE Ranjan Pradhan ANIRUDDHA LIMAYE Raghunandan SHIVKUMAR SUBRAHMANYAM				
		research and script				
		SUHAS PARANJAPE, CHANDITA MUKHERJEE, SMRITI NEVATIA				
		direction				
		CHANDITA MUKHERJEE assisted by URMI JUVEKAR, SMRITI NEVATIA, RENU SALUJA, NIKHAT SIDDIQUI				
		cinematography				
		studio C K MURALEEDHARAN assisted by SIDHARTHA RAD locations FERNANDO CABRAL e SA, SAMEER SABNIS at camera SAJID ALI, PRAKASH SUTRAVE				
		audiography INDRAJIT NEOGI associate recordist - AJAY MUNJAL				
		editing SAMEERA JAIN negative editor RAMESH PATEL				
		Mixing A M PADMANABHAN at Aradhana Sound Service				

<u>S.No.</u>	<u>Footage</u> <u>Ft. Fr.</u>	<u>Shot Description</u>	<u>Dialogue</u>	<u>Dialogue</u>	<u>Music</u>	<u>Sound</u> <u>Effects</u>
		<u>Credit Titles (Continued)</u>				
		music	K NARAYANAN			
		dialogue	PRAKASH HINDUSTANI, SMRITI NEVATIA, MEENAKSHI RAWAL			
		Lyrics	H R RAWAL			
		Song composer	SHRIDHAR PHADKE			
		Singers	JANHAVI, SHRIKANT PARGAONKAR, ROHINI SAHASRABUDDHE, DILIP SHARMA			
		production	SHEIL SADWELKAR, SUDIPTA SEN, GEETA RAMAKRISHNAN			
		project administration	GEETA RAMAKRISHNAN			
		base office	K G VISALAKSHI, HEMANT DESAI, SUPREN CARDOZA			
		Delhi Co-ordination Communication Centre (Delhi)				
		titles				
		design	MALATHI SRINIVASAN			
		artworks	SHEIL SADWELKAR			
		shooting	M A HAFEZ			
		at Prasad Productions, Madras				
		Graphics	SAMIR MANDAL, V J MOHAN, PRAMOD RANE, SHEIL SADWELKAR			
		typesetters	Bytaset Communications			
		Studio furniture	Chippendale (Exports) Pvt Ltd			
		Cine equipment	National Film Development Corpn			
		processing	Adlabs, Prasad Film Laboratories			
		Colour analysis	J BOLAN at Prasad Film Laboratories			

<u>S.No.</u>	<u>Footage</u> <u>Ft. Fr.</u>	<u>Shot Description</u>	<u>Dialogue</u>	<u>Dialogue</u>	<u>Music</u>	<u>Sound</u> <u>Effects</u>
		<u>Credit Titles (Continued)</u>				
		telecine GARWARE VIDEO CENTRE				
		music recording ARADHANA SOUND SERVICE				
		song recording WESTERN OUTDOOR				
		sound transfer Aarti Sound Centre				
		Lights Sony Cine Service				
		<u>Visual sources</u>				
		Khudabaksh Oriental Public Library				
		Lucknow Residency Museum				
		Maharaja Sawai Man Singh II Museum				
		Victoria Memorial, Calcutta				
		<u>acknowledgements</u>				
		JHUMUR LAHIRI, THELMA LOWE, SUMIT SARKAR, ASIYA SIDDIQUI, UPENDRA TRIVEDI				
		SAMAR BAGCHI, SEEMA BAKSHI, SHIPRA CHAKRABORTY, SAROJ DE, ARINDAM GANGULY, SAROJ GHOSE, K P JANARDHANAN, TAPOSH MAZUMDAR, KAMALA AND JAGDISH MITTAL, SUBODH RANDIVE, G VEERCHANDRA RAO, S R SHARMA				
		Archaeological Survey of India				
		The Asiatic Society, Calcutta				
		Bengal Engineering College, Sibpur				
		Birla Industrial and Technological Museum, Calcutta				
		Botanical Survey of India, Calcutta				
		Development and Educational Communication Unit, SAC, Ahmedabad				
		Hazarduari Mahal Museum, Murshidabad				
		Indian Railways				
		Lucknow Residency				
		Medical College Hospital, Calcutta				
		National Council of Science Museums				
		National Geophysical Research Institute, Hyderabad				

<u>S.No.</u>	<u>Footage</u> <u>Ft. Fr.</u>	<u>Shot Description</u>	<u>Dialogue</u>	<u>Dialogue</u>	<u>Music</u>	<u>Sound</u> <u>Effects</u>
		<u>Credit Titles (Continued)</u>				
		Nehru Science Centre, Bombay				
		Rail Transport Museum, Delhi				
		Salar Jung Museum and Library, Hyderabad				
		Victorial Memorial, Calcutta				
		Collector, Murshidabad				
		Collector and Revenue Department Staff, Nizamabad				
		People of Konasamudram village				
		People of Radhanagar village				
		THE END.				

