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MUMBAI
AHMEDABAD

Seminarwoche **HS18**

EIN EINBLICK IN DIE TRADITIONELLE UND ZEITGENÖSSISCHE ARCHITEKTUR VON INDIEN

Umschlag: Stufenbrunnen in Adalaj

INHALT

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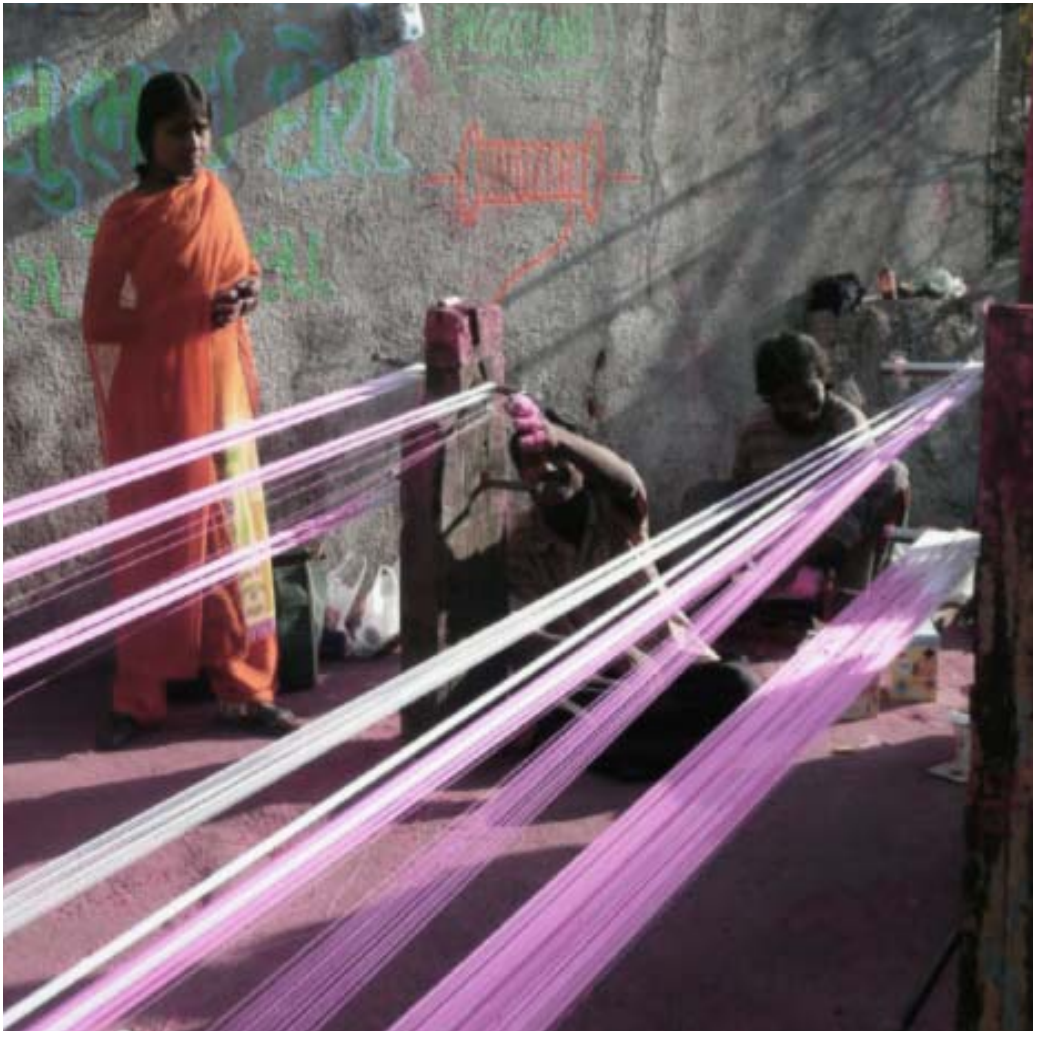
Michelle Stutz
Yeshi Wang
Jing Wang
Vivienne Yao

Bild: Textilbearbeitung in Indien



WICHTIGE INFORMATIONEN

Hotel Mumbai
19th - 23rd of October
Sea Green Hotel,
145 Marine Drive,
Mumbai - 400020
Tel: +91 22 66 33 65 25

Hotel Ahmedabad
23rd - 27th of October
The House of MG
Opp. Sidi Saiyad Jali,
Lal Darwaja
Ahmedabad - 380001
Tel: +91 79 25 50 69 46
M: +91 97 27 60 03 00

Hinflug
Freitag, 19.10.2018, LX154
09:45 Uhr ZRH - 21:40 Uhr BOM

Inlandflug
Dienstag, 23.10.2018, AI91
17:20 Uhr BOM - 18:30 Uhr AMD

Inlandflug
Samstag, 27.10.2018, AI985
19:10 Uhr AMD - 20:30 Uhr BOM

Rückflug
Sonntag, 28.10.2018, LX155
01:55 Uhr BOM - 06:10 Uhr ZRH

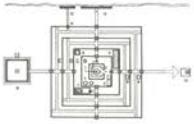
Bild: Banganga Tank in Mumbai

INDIEN


2 Ahmedabad
1 Mumbai
Indien
Pakistan
Nepal
Bhutan
Bangladesch
Sri Lanka
Colombo
Mumbai
Pune
Ahmedabad
Surat
Rajkot
Nagpur
Nashik
Bangalore
Chennai
Visakhapatnam
Kalkutta
Chittagong
Mandalay
Myanmar (Birma)
Karatschi
Multan
Neu-Delhi
Kathmandu
Patna
Lakhnau
Kanpur
Agra
Jaipur
Coimbatore
Madurai
Kochi
Mangaluru
Mysore
Hubli-Dharwad
Belgaum
Kolhapur
Gulbarga
Rajkot
Jamnagar
Bhuj
Karachi
Hyderabad
Multan
Bahawalpur
Sukkur
Jodhpur
Ajmer
Udaipur
Kota
Gwalior
Bareilly
Lakhimpur
Gorakhpur
Varanasi
Allahabad
Jaunpur
Darbhanga
Kishanganj
Gaya
Ranchi
Siliguri
Darjeeling
Guwahati
Nalbari
Aizawl
Dibrugarh
Jorhat
Lhasa
Shigatse
Gangtok
Thimphu
Paro
Kathmandu
Pokhara
Chhindwara
Raipur
Bhilai
Aurangabad
Puri
Bhubaneswar
Srikakulam
Rajahmundry
Kakinada
Vijayawada
Nellore
Tirupati
Anantapur
Tiruchirappalli
Thiruvananthapuram
Kollam
Golf von Bengalen
Arabisches Meer
Andamanensee
Lakkadivensee
Gulf of Martaban
Andaman Islands
Nicobar Islands
Yangon
Naypyidaw
Taunggyi
Chiang Mai
Lampang
Phuket
Surat Thani
Chumphon
Ranong
Phrae
Khiri Khan
Tak
Kamphaeng Phet
Uttarakhand
Punjab
Haryana
Chandigarh
Uttar Pradesh
Rajasthan
Madhya Pradesh
Gujarat
Jharkhand
Bihar
Westbengalen
Chhattisgarh
Odisha
Maharashtra
Goa
Karnataka
Andhra Pradesh
Telangana
Tamil Nadu
Puducherry
Kerala
Lakshadweep
Andamanen und Nikobaren
Sikkim
Arunachal Pradesh
Assam
Nagaland
Meghalaya
Manipur
Tripura

Synopse

Indien 1850 bis heute
Politik, Architektur und Stadt



Im Urbanisierungsprozess Indiens markieren südindische Stufentempel und monumentale Tore wie in der Stadt Vijayanagara die vier Himmelsrichtungen ihrer städtischen Umgebung und künden von politischer oder religiöser Macht. Die Mogul-Herrscher sehen in der geometrischen Harmonie ihres Territoriums, ihrer Städte und ihrer Bauten das beste Zeugnis ihres Einflusses.

Jaipur, die rosa Stadt Rajasthans, wird auf einem Raster nach den Plänen des Architekten Vidyadar von 1727 errichtet und folgt dem Konzept, die Planung mit dem hinduistischen Mandala-System in Einklang zu bringen. Die typologische Standardisierung und die Farbe der Außenflächen verleihen der neu gebauten Stadt einen speziellen Charakter.

1860

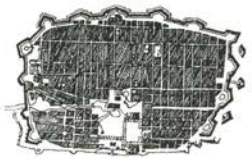
1853 Eröffnung der ersten indischen Eisenbahn von Bombay nach Thana (27 km)

1857 Aufstand der indischen Soldaten in der britisch-indischen Armee (Sepoys) von Nordindien und der Grundherren von Oudh

1858 Abschaffung der British East India Company (EIC), Übernahme Indiens durch die Britische Krone

1870

Kolonialzeit



Die französischen Kolonialherren (1673-1954) erbauen Pondicherry (1788) am Rand des Indischen Ozeans, eine Stadt mit klassischen öffentlichen Bauten, Baumalleen und Gartenhäusern. Der indische Teil der Siedlung setzt sich in die neue städtische Umgebung fort.

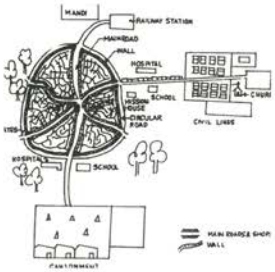
1880

1877 Königin Victoria nimmt den Titel „Kaiserin von Indien" an

1890

1885 Im Kontext der Indischen Nationalbewegung, die sich in den 1870er Jahren formiert, wird in diesem Jahr der indische Nationalkongress (INC) gegründet. Anfänglich noch an der Kooperation mit den britischen Kolonialherren interessiert, radikalisiert sich der INC zu Beginn des 20. Jahrhunderts zunehmend, was schließlich zur Spaltung und damit zur Verdrängung der gemäßigten Kräfte führt.

1900



Die Briten üben einen starken Einfluss auf die Stadtentwicklung des Landes aus. In Madras werden die Marina und die Universitätsbauten (1639), in Bombay das Fort-Viertel mit der Asiatic Society (1662) als englische Monumente errichtet, die mit ihren aus England übernommenen frühen klassizistischen Stilen das Stadtbild prägen. Die Kolonialstädte sind im Allgemeinen monozentrisch und haben getrennte Stadtteile für die Einheimischen und die Briten. Letztere besitzen ein großzügiges, wohl geplantes Straßennetz mit freistehenden Bungalows auf weiten, offenen Grundstücken.

Ab 1840: Die Konsolidierung der britischen Kolonialmacht geht einher mit dem gesteigerten Einfluss europäischer Architekturströmungen: Entstehung repräsentativer öffentlicher Neubauten, etwa klassizistischer Museen wie das Indian Museum in Kalkutta (1875) oder die neogotische Victoria Station in Bombay (1887)

1907 Gründung der All-India Muslim League, da sich die Muslime im INC nicht mehr ausreichend repräsentiert fühlen; Schwächung der Nationalbewegung

1910

1911 erfolgt der Erlass von George V. von England, dass Delhi Kalkutta (heute Kolkata) als Hauptstadt ablösen soll. Edwin Lutyens (1869-1944) und Herbert Bakers (1862-1946) werden mit der Planung der neuen Hauptstadt beauftragt.

Der Bau von Neu Delhi hat politische Motive und zeugt von der Entschlossenheit der Briten, ihre Herrschaft aufrecht zu erhalten. Lutyens ex-portiert die Idee der Gartenstadt nach Neu Delhi. Die Stadt hat eine breite Achse, die an einem imposanten Palais endet. Der große Maßstab wird hier genutzt, um Überlegenheit und geschichtliche Bedeutung zu demonstrieren.

Mit dem Bau **Neu Delhis** fällt ein architektonischer Paradigmenwechsel zusammen: Der europäische Klassizismus soll durch die Verbindung mit traditionellen indischen Bauelementen, wie den Jaalis (Steingitter) oder Chhattris (Pavillonbauten) in einer neuen Indischen Architektur aufgehen.

1920

1919 Ghandis erste Satyagraha-Kampagne, die im Kern auf Gewaltlosigkeit beruht

1920 wird das Indian Institute of Architects gegründet.

Die politische „Swadeshi"-Bewegung weckt den Wunsch nach typisch indischen Bauten. Deshalb greift man auf die Vedas oder kosmologische Prinzipien und die hinduistische Philosophie zurück. Die Banaras Hindu University (1916) ist eine Antwort auf die prestigeträchtigen Bildungsinstitutionen, die von den Briten gegründet werden.

1930

1930 Gandhis Salzmarsch (Civil Disobedience). Vereinigung der indischen Nationalisten im Zuge des Freiheitskampfes

1931 Feierliche Einweihung Neu Delhis

1934 Wahlen zum Zentralparlament unter Beteiligung des Nationalkongresses

Die frühen modernistischen Gebäude in Indien bleiben in den Jahrzehnten vor der Unabhängigkeit vereinzelte Projekte ausländischer Architekten für aufgeschlossene Bauherren; etwa Eckhart Muthesius Palast Manikh Bagh in Indore (1930-33) oder Antony Raymonds Golconde in Pondicherry (1938).

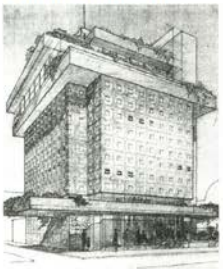
In den 1930er Jahren nimmt der Einfluss Europas und Amerikas auf Indien zu. Art Déco spielt eine wichtige Rolle und markiert eine Übergangsphase zur Moderne. Besonders in Bombay prägen die Kinos der 1930er Jahre nicht nur das Stadtbild, sondern regen auch zur Nachahmung an. Auch Banken, Bürogebäude und öffentliche Institutionen nutzen Art Déco gern für ein „modernes" urbanes Image, wobei Art Déco mitunter auch in „Indo Déco" umgewandelt wird. Rabindranath Tagores panasiatische Ideologie und Surendranath Kars Arbeit im Geist von Swadeshi verkünden in der Mitte der 1930er Jahre das „Indertum". Diese Projekte propagieren eine Gegenideologie, die jedoch nur den aktuellen Zwecken dient und schließlich zum Provinzialismus degeneriert.

1940

1942 Der INC verabschiedet die „Quit India" Resolution, die die Briten zum sofortigen Verlassen des Landes auffordert.

1947 Wahlen zur verfassungsgebenden Versammlung. Unabhängigkeit und Teilung: Dominion Pakistan (14. August) und Dominion Indien (15. August). Massenhafte Fluchtbewegung von Muslimen nach Pakistan und von Hindus und Sikhs nach Indien. Mehr als 10 Millionen Menschen werden vertrieben, bei den gewaltsamen Ausschreitungen kommen bis zu einer Million Menschen ums Leben.

Calico Mills Administration, **Ahmedabad von Frank Lloyd Wright (1946), nicht realisiert.**



Die empiristische Tradition wird in Gebäuden wie dem National Institute of Design (NID) in Ahmedabad von Gautam Sarabhai (1961) sichtbar, dessen Verbindung von Außen- und Innenraum und dessen horizontale Schichtungen deutlich die Bezüge zu Frank Lloyd Wright aufzeigen.

Vertreter der Architekturströmung „Revivalists" verbinden traditionelle architektonische Motive mit modernen Baumaterialien und -technologien sowie zeitgemäßen Nutzungen. Ein wichtiger Vertreter ist Claude Batley. Bis in die 1960er Jahre entstehen einige Gebäude dieses Stils, wie das Bhartiya Vidya Bhawan Institut in Bombay, das für seine reichen Bauherren und deren Architekten den Inbegriff von Modernität darstellt.

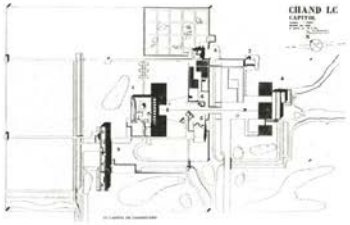
Mit dem *International Style*, universal und historisch nicht vorbelastet, bietet sich die Möglichkeit, die Euphorie der Post-Independance-Phase in eine entsprechende Architektursprache zu übersetzen. Gefördert von staatlicher Seite soll diese die neugewonnene Unabhängigkeit und die Fortschrittsorientierung des modernen indischen Staates nach außen tragen. Zwischen Anhängern der „Revivalists" und des *International Style* entsteht ein Konflikt darüber, welcher architektonische Stil den neugegründeten Staat besser repräsentieren kann.

Frank Lloyd Wright sowie Walter Gropius und die Bauhaustradition üben auf die erste Generation moderner indischer Architekten wohl den größten Einfluss aus. Der prominenteste Vertreter dieser Generation war Aychut Kanvinde; er hatte wie viele seiner Kollegen im Ausland studiert, Kanvinde in Harvard bei Gropius.

1947–49 Beginn des Kaschmir-Konfliktes

1948 Ermordung Mahatma Gandhis durch einen hinduistischen Fanatiker

1948 Gewaltsame Eingliederung des Fürstenstaates Hyderabad in die indische Republik



Planung Chandigarhs (1951-65), der neuen Hauptstadt Punjabs. Zuerst werden Albert Mayer und Mathew Nowicki mit dem Entwurf beauftragt. Nach dem Tode Nowickis 1951 wird die Aufgabe an Le Corbusier übertragen, der sie zusammen mit Pierre Jeanneret, Maxwell Fry und Jane Drew ausführt.

Neben Chandigarh üben auch Corbusiers Bauten in Ahmedabad eine starke Anziehungskraft auf die indische Architektenschaft aus, u.a. Villa Shodhan (1954), Sarabhai House (1955) und Sanskar Kendra Museum (1957). Ablesbar wird sein Einfluss etwa im L.D. Institute of Indology (1952-62) in Ahmedabad in der Verwendung von Sichtbeton und horizontalen Fensterbänden von Balkrishna Doshi.

Bau des Indian Institute of Indology in Ahmedabad durch Balkrishna Doshi

Bereits in den 1950er Jahren emanzipieren sich einige indische Architekten von ihren modernen Mentoren und suchen eine Synthese aus der westlichen Inspiration und den eigenen Wurzeln zu generieren.

Bau des India International Centre (IIC) durch Joseph Allen Stein (1952)

Die Millowners Association (ATMA) in Ahmedabad (1951-54) von Le Corbusier hat einen individualistischen urbanen Charakter. Auf der einen Seite ist es zur Straße orientiert, auf der anderen zum Fluss. Der offene Bereich und das Geschoss auf Rampenniveau sind die öffentlichen Zonen dieser typologischen Studie.

Bau des Indian Institute of Technology (IIT) in Kanpur durch Achyut Kanvinde (1959-66) und des Central Institute for Educational Technology (CIET), Neu Delhi durch Raj Rewal (1987). Der Hofraum des CIET dient sowohl einer angemessenen Belichtung und Belüftung wie auch als Bühne für kulturelle Aktivitäten und sozialer Treffpunkt.

Im Rahmen des zweiten Fünfjahresplans beschließt Nehru 1953 zur Industrialisierung Indiens den Bau von Stahlwerken und den entsprechenden Arbeiterstädten. Neben Durgapur und Bhilai wird in der Folge die Kruppstadt Rourkela (1956-61) gebaut.

Gründung des National Institute of Design (NID) 1961 auf Empfehlung des „Eames Reports", der 1958 von Charles und Ray Eames auf Einladung der indischen Regierung entwickelt wird. Angesichts eines stetigen Imports westlichen Designs regt der Report die Entwicklung eigenständiger Gestaltungsrichtlinien und die Förderung der einheimischen Industrie an.

Bau des Indian Institute of Management (IIM) in Ahmedabad durch Louis I. Kahn (1962)

1950

1950 Demokratische Verfassung der Republik Indien. Aufbau einer sozialistischen Planwirtschaft mit marktwirtschaftlichen Elementen

1951 Jawarharlal Nehru wird zum Premierminister gewählt

1952-56 Erster indischer Fünfjahresplan

1957-61 Zweiter Fünfjahresplan: Betonung des Ausbaus der Schwerindustrie, Indien ist auf westliche Wirtschaftshilfe angewiesen

1959 Flucht des Dalai Lama von Tibet nach Indien, Beginn der Konfrontation mit China

1960

1962 Grenzkonflikt mit China

1962-67 Dritter indischer Fünfjahresplan

1964 Jawarharlal Nehru stirbt, Lal Bahadur Schastris wird zum Nachfolger gewählt

1965 Zweiter Kaschmirkrieg

1966-77 Die Tochter Nehrus, Indira Ghandi, wird zur Ministerpräsidentin gewählt

Die Experimentalstadt Auroville wird 1968 eingeweiht. Entworfen von einer Architektengruppe um den französischen Architekten Roger Anger, stellt Auroville, vergleichbar mit Arcosanti in den USA, den Versuch dar, eine Idealstadt zu realisieren, in der neue Wohn- und Lebensbedingungen aber auch alternative Baumethoden und Energiequellen getestet werden.

1968 „Grüne Revolution" (u.a. Einführung von Hochertragssorten und Düngemitteln) nach Zusammenbruch der Agrarpreispolitik in der vorangegangenen Dürrezeit

1969 Spaltung der Kongresspartei durch Indira Ghandi

1969-74 Vierter Fünfjahresplan

1970

Identitätssuche

1969 feiert Indien Gandhis 100sten Geburtstag. Revision seiner Ideen und Ideale und damit einhergehend das Bestreben, die traditionellen indischen Lebensgewohnheiten in die Bauweisen und Bauwerke zu integrieren.

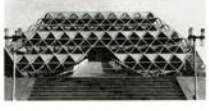
Den vernakulären Ansatz findet man etwa in den Projekten von Laurie Baker, der moderne Architekturkonzepte mit lokalen Techniken und Materialien vereint.

1971 Krieg zwischen Indien und Pakistan. Ost-Pakistan wird als Staat Bangladesh unabhängig. Mehrere Millionen Flüchtlinge strömen von Ost-Pakistan nach Indien

1974 Weitere Dürrejahre und die Weltenergiekrise treffen Landwirtschaft und Industrie

1974 Erste Atomtests in Indien

Koenigsbergers Planungen für Bhubaneshwar, Chandigarh und Gandhinaghar (1971) setzen sich mit dem Thema der modernen Urbanität auseinander. Im 20. Jahrhundert sind die entscheidenden Akteure im Planungsprozess stets die verschiedenen Regierungsbehörden, bei denen die Stadtgestaltung häufig eine geringe Rolle spielt. Bemerkenswerte Ausnahmen sind in jüngster Zeit die Arbeiten der Entwicklungsbehörde in Bhopal, die Projekte für die C.-G.-Straße sowie die Uferbebauung in Ahmedabad und die Bebauung der Meeresfront in Cochin.



Bau des International Trade Fair Authority of India durch Raj Rewal in Neu Delhi (1972)

1977 Bei vorgezogenen Wahlen verliert die Kongresspartei die Bundestagswahl; Janata-Partei kommt an die Macht

1978-83 Fünfter Fünfjahresplan der Janata-Regierung: Vorrang der Landwirtschaft vor der Industrie

1980

1980 Beginn der Unruhen in Assam

In den 1970er Jahren entstehen introvertierte, verdichtete Wohnquartiere mit Fußgängerstraßen, die Bezüge etwa zu den Mohallas (Nachbarschaften) nordindischer Städte aufzeigen.

Bau der Yamuna Housing Society (1973-1980) durch die Design Group (1961 von den Morad Chowdurry, Ranjit Sabikhi und Ajoy Choudhury, ehemaligen Mitarbeitern Kanvindes gegründet)

Bau des Visvesvaraya Centre in Bangalore durch Charles Correa (1980)

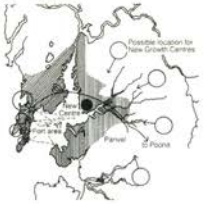
In seinem nostalgischen Grundton ist der Rückgriff auf die alten indischen Stadtgründungen wie Jaisalmer oder Udaipur etwa mit der Entstehung der New-Urbanism-Strategien in den USA in den frühen 1980er Jahren vergleichbar.

1980-84 Rückkehr Indira Ghandis als Ministerpräsidentin

1982 Indien unterstützt die Tamilen in Sri Lanka mit Waffenlieferungen

1981-85 Sechster Fünfjahresplan der Kongresspartei

1983 Erstes von den Indern gebautes Atomkraftwerk geht bei Kalpakkam (Tamil Nadu) in Betrieb



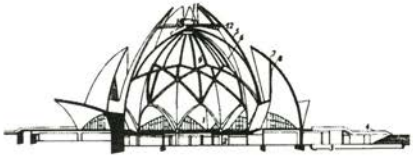
Anfang der 1970er Jahre entsteht Navi Mumbai als Satellitenstadt nordöstlich von Mumbai auf dem Festland, um die Verkehrswege der Millionenstadt zu entlasten und neue Wohn- und Industriegebiete zu erschließen. Von mehreren Knotenpunkten ausgehend soll Navi Mumbai für eine Bevölkerung von zwei Millionen Menschen ausgebaut werden.

Bau des Kanchanjunga Wohnturms in Mumbai durch Charles Correa (1970-83)

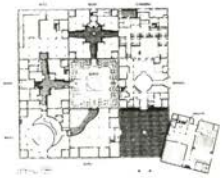
Bau des Venkateswara, University Auditorium, Tirupati durch SL Chitake and Sons (1975), eine Betonschalenkonstruktion. Konstruktive Experimente dieser Art sind jedoch in der Minderzahl, der Bezug zu den Ingenieurwissenschaften hat in der Architektenschaft nachgelassen.

Angesichts massiver Luft- und Wasserverschmutzungen und Engpässen in der Energieversorgung gewinnt in den 1980er Jahren das ökologische Bauen zunehmend an Bedeutung.

Dabei bleibt die ökologische Ausrichtung, etwa Regenwasserrückgewinnung oder die Verwendung lokaler Baumaterialien, vornehmlich den Wohnhäusern der neuen indischen Mittelschicht vorbehalten.



Im letzten Jahrzehnt des 20. Jahrhunderts demonstrieren die Akshardhams (Swaminarayan-Tempelkomplexe), die in Ahmedabad (1992) und in Delhi (2005) entstehen, das Wiederaufleben traditioneller religiöser Bauten in großem Stil. Auch das Handwerk erlebt, in Verbindung mit moderner Technologie, einen neuen Aufschwung. Beim Baha'i House of Worship (1986) zelebriert Fariburz Sahba in ähnlicher Weise die „Handwerkskunst" allein mit technologischen Mitteln – charakteristisch für die verspätete Postmoderne in Indien.



Jaipur Plan von Charles Correa und Jawahar Kala Kendra (1986-92), der mythologische Muster und Mandalas in die Stadtgestaltung mit einbezieht

Bau der Life Insurance Corporation of India (L.I.C.) in Neu Delhi durch Charles Correa (1986)

In der Schule für spastische Kinder von der GRUPINDIA (1985-95), geleitet von Romi Khosla, vermitteln die überhöhten, in die Fassade eingeschriebenen ikonographischen Formen den Einfluss von Venturi und anderen postmodernen Strömungen.

1984 Auf dem Höhepunkt der Unruhen zwischen Hindus und fundamentalistischen Sikhs stürmt die indische Armee den Goldenen Tempel von Amritsar, wo sich der militante Anführer der Sikhs, Jarnail Singh Bhindranwale, verschanzt hatte. 500 Menschen sterben. Als mittelbare Folge wird die indische Ministerpräsidentin Indira Ghandi am 31. Oktober 1984 bei einem Attentat durch zwei ihrer Sikh-Leibwächter getötet. Es kommt zu Gewaltausbrüchen, denen allein in Neu Delhi innerhalb von drei Tagen mehr als 2.000 Sikhs zum Opfer fallen.

1984-89 Rajiv Ghandi, der Sohn Indira Ghandis, wird Ministerpräsident

1985 Eskalation des Kastenkonflikts in Gujarat

1985-90 Siebter Fünfjahresplan (Gesamtinvestitionen ca. 85 Mrd. DM)

1987 Friedensvertrag zwischen Indien und Sri Lanka

Bau des Indira Gandhi National Centre for the Arts (IGNCA) in Neu Delhi durch Ralph Lerner (1987-2001 (Einweihung))

1990

1991 Die Regierung von P. V. Narasimha Rao wird vereidigt: Einleitung einer wirtschaftlichen Liberalisierung zur Belebung der Handelsbeziehungen mit dem Ausland, Öffnung der Märkte für ausländisches Kapital

1992/93 Zerstörung der Babri-Moschee von Ayodhya durch fanatisierte Hindus, Unruhen in verschiedenen Landesteilen. Ausschreitungen in Bombay zwischen Muslimen und Hindus mit mehreren Hundert Toten

1998 Erste Atomtests Pakistans

1999 Dritter Kaschmirkrieg

Die baulichen Ausprägungen der Globalisierung, generische Businessparks und *gated communities* nach westlichem Vorbild formen zunehmend die indische Stadtlandschaft und haben erneut die Suche nach der indischen Identität in der Architektur angefacht.

Bau der Hussain-Doshi Gufa durch Balkrishna Doshi in Ahmedabad (1992-95)

2000

2001 Volkszählung zeigt Rückgang der Geburtenrate, der „demographische Umschlag" ist deutlich erkennbar

2001 Am 26.1.2001 erschüttert ein Erdbeben mit der Stärke 7,7 die Region Gujarat. Etwa 20.000 Menschen sterben und 200.000 werden verletzt.

2002 Pogrom in Gujarat, dem Tausende von Muslimen zum Opfer fallen

2004 Durch ein Seebeben im Indischen Ozean ereignet sich eine der bisher schlimmsten Tsunamikatastrophen der Geschichte. Mindestens 231.000 Menschen in acht asiatischen Ländern (Indonesien/Sumatra, Sri Lanka, Indien, Thailand, Myanmar, Malediven, Malaysia und Bangladesch) werden getötet.

2005 USA und Indien vereinbaren einen Nuklearpakt, der Indien praktisch den bisherigen fünf Atommächten gleichstellt, obwohl Indien den Atomsperrvertrag nicht unterschrieben hat.

2007 Am 18. Februar explodieren mehrere Bomben im „Freundschaftsexpress", der einzigen Zugverbindung zwischen Indien und Pakistan.

Junge Architekten wie Bimal Patel und Rahul Mehrotra interpretieren häufig die Prinzipien der Moderne neu, um sie besser in den indischen Kontext zu integrieren. So zeigt zum Beispiel Patels Management Association in Ahmedabad (1997) eine wahrhaft moderne Formensprache, bietet aber auch ein neues Modell für ein ökonomisch nachhaltiges Gebäude.

Bau des Delhi Finance Group Headquarter (DLF) durch Hafeez Contractor in Gurgaon (1999)

Bau des International Tech Park Ltd. (ITPL) durch RSP Architects and Planners in Bagalore (2000-04)

James Belluardo, „The Architecture of Kanvinde, Doshi, and Correa in Political and Social Context“

in: Professur Wolfgang Schett, ETH Zürich, *Bombay-Ahmedabad*, Seminarreisereader HS 2008, Zürich, 2008, S. 8-16.

The enormous changes that have transformed the world in the last fifty years are especially evident in the situation of India. In the period following its independence from British rule in 1947, the nation was dominated by a strong belief in the ability of technology to advance the cause of democracy. By the 1960s, however, a disenchantment with scientific solutions had taken hold in some segments of Indian society, and by the 1970s and 1980s a renewed interest in values rooted in the past came to the fore. In recent years India has regained a new confidence in science, this time without the idealistic underpinnings of the earlier period. Throughout the postcolonial era, the work of three architects in particular - Achyut Kanvinde, Balkrishna Doshi, and Charles Correa - has both reflected and helped define and highlight the social, cultural and economic issues the country has faced.

Politically, India‘s major priority at the time of its independence was the consolidation and transformation of the Indian states into a modern nation. Once the British had left and the subcontinent had been partitioned into India and East and West Pakistan, the government was confronted with the need to create a sense of national identity. In contrast to Pakistan, India did not have a common religion as a basis for unity. Moreover, the distinct characters of the many regions of the country tended to militate against evolution of a common identity.

In the years following World War II, India occupied a prominent place in the international community. The National Movement‘s successful use of a policy of non-violence to achieve independence gave the country a moral authority, and independent India‘s policy of nonalignment, while seen as a provocation by the great powers that had emerged from the war, served to underscore the country‘s autonomy and made it a model for other former colonies gaining their independence from the West. India benefited from policies of the newly established United Nations, along with various other agencies created at the time, that supported economic, social, and political development to achieve universal parity.

The vision of India‘s first prime minister, Jawaharlal Nehru, guided the nation into the modern era. With wa population of 350 million

in 1947, India was the second largest country in the world after China. Nehru wanted international recognition for his country commensurate with its history and its potential for development, and he sought to harness India's great resources to position it alongside the United States, the Soviet Union, Europe, and China in shaping the future. The new government made self-reliance a major goal, to prove to the world and to the country itself that India's poverty and economic backwardness had resulted from colonial rule. This was an important nationalist cause and it now had to be acted upon. Nehru created a centralized state to launch India on a massive nationalized project of large-scale industrial development that included the construction of dams, mines, factories, and institutes of technology. Nehru believed that communal unrest grew out of economic injustice, and that the secular and socialist state, investing in technology, would be able to erase both of these curses together. In post-colonial India, scientific knowledge was given priority over traditional learning, centers for scientific study and research were given a privileged position in society, and engineers were accorded a high status. After centuries of colonization, in 1947 India was off to a fresh start.

Although Mahatma Gandhi gave Nehru his support, their views on India's future differed sharply. Gandhi advocated a return to the traditional values of the village. The goal of his emotional appeal to tradition-tempered with social reforms on matters such as attitudes towards the untouchables and sanitary habits-was to promote self-sufficiency at the local level. He believed that industrial technology, and not just those who controlled it, was the root cause of India's poverty. Despite the powerful impact of Gandhi's message, however, Nehru's vision ultimately prevailed. To prosper, the nation was convinced, India would have to break with the past.

Modern Architecture and India

Modern architecture spread rapidly throughout the world in the years immediately following World War II. Because its functionally and structurally-determined forms and spaces made little reference to traditional architecture, it too represented a fresh start. Using modernist forms and new construction technologies, industrialized nations that had been devastated by the war would be rapidly rebuilt and embark on great economic expansion. The abstracted, universal vocabulary of modern architecture seemed to offer a path to a future of prosperity and international amity.

These qualities of modern architecture offered India the possibility of meeting its own construction needs, as well as participating along with the industrialized nations in the commitment to progress. A great deal had to be built in India within a short period of time; the sense of urgency left little time for young architects to debate architectural issues or evolve a theoretical approach to design. The Modern Movement offered India a vision of the future based on a functionalist language that was free of colonial associations and of reference to specific religious or ethnic traditions. The recent memory of the agonizing partition of the subcontinent, and the demands of the secular state, called into question the value of India's architectural heritage for use in the present. Modern architecture seemed to promise exciting possibilities for the expression of India's newly formed identity, and its clean, efficient forms were easily understood by the technocrats who made decisions for the state to advance industry, commerce, and science.

Achyut Kanvinde was to playa crucial role in making modern architecture an important part of Indian life. He had studied architecture at the JJ School of Art in Bombay - at independence, the only school of architecture in India - before being sent by the government in 1945 to study at the Harvard University Graduate School of Design, then headed by Walter Gropius. Like Kanvinde, many Indian architects of his generation went to the United States for further education. While England's former colonies often maintained close ties with the British, especially in educating their elites, many Indian architects were attracted to the very progressive architectural community in the United States in those years. The attractiveness of the U.S. was enhanced by the fact that it was still perceived as a former colony that had proved its greatness, an achievement India hoped to duplicate. Since President Franklin D. Roosevelt had supported India's independence in spite of Winston Churchill's opposition, and America was then promoting an anti-colonial foreign policy, studying in the U.S. seemed all the more appropriate.

Kanvinde returned to India in September 1947, barely a month after independence, and immediately was assigned such major commissions as the Ahmedabad Textile Industry's Research Association and the Physical Research Laboratory. Well equipped with the language of modernism, Kanvinde, along with fellow architects Habib Rahman and Jeet Lal Malhotra, introduced the Modern Movement to India some years before the arrival of Le Corbusier and Louis Kahn. Strongly influenced by Gropius, Kanvinde believed that the visual language of modern architecture was based upon a scientific understanding that could be grasped by all cultures in the same way. They shared the midtwentieth century belief that science was at the core of all understanding, that its appeal was universal, and that it was able to transcend cultural boundaries. Science, through technology, could respond to the needs of all Indians without privileging one group over another.

In the mid-1950s there was, however, some strong opposition to the Modern Movement in India. Among the leaders of the opposition was Claude Batley, a British architect who continued as director of the JJ School. A campaign was mounted for a legislated national style for architecture, based on traditional Indian motifs. While on the one hand the idea of a national style echoed approaches adopted in the Soviet Union and China, in India the notion that decorative and compositional motifs were adequate to creation of a national style was characteristic of the British attitude toward Indian architecture. The British had typically appropriated compositional devices from India's past for use on buildings that were designed according to Western spatial concepts.

Some young architects became aware of the proposed mandate for a national style and were very disturbed by its implications. Kanvinde was able to arrange a meeting with Nehru in order to present his strong opposition to such action. Nehru listened.

In March 1959, in an inaugural address delivered to a conference on modern architecture, Nehru aligned himself with the modernist cause. At this important occasion, convened by Kanvinde and held at the Lalit Kala Akademi in New Delhi, Nehru, in his only direct address to architects, stated, "You cannot isolate architecture from the age, from the social conditions, from the thinking, from the objectives and ideals of that particular age." To those who favored using historical references in architecture, Nehru pointed out that „The past was good when it was the present, but you cannot bring it forward when the world has changed into a technological period." There would be no national policy to impose an Indian style.

Kanvinde's decision to set up private practice in New Delhi in 1955, with Shaukat Rai and (later) Morad Chowdhury, was propitious for the continuing role he would playas a strong proponent of modernism. As the newly-formed Indian government in New Delhi, guided by Nehru's centralization policies, became the major client for new construction, New Delhi had quickly become the center of architectural activity. Although most building continued under the Public Works Department (PWD), a governmental agency inherited from the British and dominated by engineers, commissions were also given to architects in private practice. The office of Kanvinde Rai and Chowdhury received commissions for projects - many to address India's industrial possibilities - of large scale on tight schedules that demanded an organized construction industry.

Traditional ways of building could not meet the needs of a nation anxious to participate in a world undergoing rapid industrialization. Kanvinde played a crucial role in the transformation of building from a manual trade to an organized industry based upon a new division of labor. He worked with materials suppliers and major contractors to develop materials and methods for large-scale construction, and he also was a critical figure in enhancing the status and defining the responsibilities of architects. In 1974, Kanvinde became first member of the newly-established New Delhi Urban Arts Commission, which gave accredited architects sole authority to submit drawings for buildings. Legislation to establish the Commission was passed by Parliament as the result of efforts of Pilu Modi, an architect who entered politics. Until that time, draftsmen and engineers, as well as architects, were able to submit drawings of buildings for approval by appropriate authorities.

Throughout his long practice, which remains active today, Kanvinde has continued to deliver straightforward, well-constructed buildings that meet the needs of his clients. He has remained committed to the noble values of modernism, and his work has

consistently avoided reference to historic forms. Although his professional life has been occupied with the building of Nehru's vision for a modern India, his home life remains respectful of traditions from his family's humble origins. A true self-effacing modesty, stemming from Gandhi's values, defines the man himself. In addition, it is through his inherent generosity that a number of talented young architects, not necessarily sharing his views, have received their first important commissions.

In 1993, Kanvinde agreed to accept a pro bono commission to build the ISKCON temple complex for the followers of Srila Prabhupada in New Delhi. With a conscious and deliberate use of symbols to express character in religious architecture, and drawing inspiration from eleventh-century temples in Orissa, Kanvinde produced a design that is in marked contrast to all his previous work, but not inconsistent with his design philosophy. At the ISKCON temple complex, a symbolic use of space, structure and elaborate decoration achieves its vital meaning in the present because it has been carried forward directly from the past.

Kanvinde has always been troubled by the use of traditional forms in non-traditional buildings. For him form is not value-free; he believes that architects need to consider the religious aspects of buildings that were created within a particular context. Kanvinde, like Nehru, has sought to keep the secular and religious realms separate. He sees the past as specific and as understood differently by various groups. It was this dilemma of specific pasts that troubled the first generation of post-colonial Indian architects who experienced first-hand the horrors of Partition. It is also a current problem, with the open exploitation of religion by political groups and the disturbing rise of sectarian violence.

Reassessing the Present and the Past

By the late 1960s, it was clear that Nehru's ambitions for India had been overly optimistic. Europe and Japan had recovered from the destruction of the war. India, however, still lagged behind in establishing a prosperous industrial state. Many problems, including a soaring population, illiteracy, territorial vastness, and isolation of communities, plus political corruption, prevented quick advancement. While the West had been seen as a partner of sorts right after India's independence, it now became a measure of India's economic backwardness. A vast chasm existed between the industrialized and developing nations, now commonly referred to as the First and Third Worlds, with the Second World, or communist nations, keeping a respectable distance from the Third.

In addition, it should be noted that modern architecture in India was not always successful. The process of standardization, integral to the Modern Movement and central to the revitalization of India's construction industry, never was fully accomplished in the decades following independence. In fact, the quality of building construction had declined, so much so that by the 1960s modern architecture was seen by many as a formulaic way of building cheaply and quickly. There were numerous examples of modern buildings in urban India that gave validity to this perception. Furthermore, a number of Indians saw the Modern Movement as a continuation of Western dominance, a new form of cultural imperialism. Nevertheless, in those years modernist architecture was officially regarded as representative of the nation's progress. This image was continually encouraged in order to attract foreign investment and aid, which many political leaders, Nehru among them, actively sought.

By the 1970s, serious questioning of modernism's validity and success had spread world-wide, along with doubts about the notion of progress itself, and dependence on advanced technology. As in the nineteenth century, many in the West turned now to India as a repository of values that had been ignored in the rise of industrialization. They looked to India to fulfill spiritual needs and to seek inspiration in Gandhi's teachings, which were central to Martin Luther King and the civil rights movement in the United States.

Fortunately Nehru's policies, while emphasizing growth and technology, had not sought to eradicate traditional culture, as China's modernization policies had. While a clean line was drawn between the past and the present, crafts continued to exist and were encouraged by state subsidies. Gandhi's India of village culture, although marginalized by Nehru's vision, endured. This general atmosphere would lead to the attempt by many architects to use traditional forms and technologies for nontraditional buildings.

For many Indian architects, Bauhaus functionalism was made obsolete by the example of Le Corbusier and later of Louis Kahn, both of whom built major projects in South Asia during the 1950s and 1960s. Le Corbusier sought to give India an architecture that referred to its particular spirit, quite unlike the more scientific and universal Bauhaus model. His sketchbooks, with their recording of bulls' horns, industrial cooling towers, vernacular scenes, and miniature paintings, form a visual record of his wide-ranging observations in India. He showed architects how they could make their own, rooted expression while using modernist language.

Balkrishna Doshi, who worked on Chandigarh in Le Corbusier's atelier in Paris and oversaw construction of his buildings in Ahmedabad, adopted the master's method of making notations in sketchbooks, writing essays, creating study models, and painting. His early works attempted to extend Le Corbusier's formal vocabulary. In a search for an architecture that would have the most resonance for India, Doshi looked to India's past. But his focus was on space and how it was experienced, not on the design motifs that had intrigued the British.

In the early 1970s, Doshi immersed himself in a deep study of India's religious practices and their meaning for the built environment. Doshi lamented the contemporary emphasis on the secular over the sacred, and sought to understand the basic principles that shaped Indian society. Architecture, he believed, should grow from a culture's roots; for Doshi the meaning of space could only be discovered through an understanding of the rituals that bring dignity to everyday life. Indeed, he maintained, the strength of India's spirit would survive in the rituals of its people. In this way India could be a rich country; poverty is not the absence of material success of the West, but the loss of significant meaning in the present.

While he rejected Nehru's clear distinction between the past and present, Doshi nevertheless felt that segments of the past that were no longer viable should be discarded. He valued modernist architecture, but believed it should be adapted to an Indian way of life. Modern forms could renew traditions and sustain the vitality of traditional values. Doshi's concern was not to create a style, but to support an ethos that acknowledges India's complexities. This led him to an architecture of ambiguous spaces that seeks to activate the psyche, while also providing a sense of security and well-being.

Doshi's first project that sought to integrate his studies was Sangath (1979-81), his studio west of Ahmedabad. Sangath's organic formal values establish, through a process of abstraction, multiple associations and orderings that build upon an understanding of what informed the past and eschew overt references that would give the work an obvious Indian identity. In this work, Doshi succeeds in transforming the past into something totally new. Sangath also expresses Doshi's understanding of the spiritual value of craft, which he used to further develop a modern vocabulary. There is for Doshi, as there was for the traditional Indian architect, a unity of purpose in the thinking and the making of architecture. Sangath's vaulted forms, set in a garden, result in an evocative and sensuous architecture. This craft quality is closely tied to scale, and Doshi's Gandhi Labour Institute (1980-84), located a kilometer away from Sangath, which makes use of similar forms and materials, reveals the limitation of craft production when adopted for large projects.

Like Le Corbusier, Doshi has produced an oeuvre that covers a wide range of building types and scales. Prominent in his work is his effort to understand and address the need to provide housing for India's masses. In rural areas, poor people have traditionally built their own shelters. When they migrate to cities, it is impossible for the government to house all; many end up in squatter settlements. Since the 1970s, non -governmental organizations, including the World Bank, have been involved in development schemes to provide housing for India's destitute. In an effort to take care of the most urgent needs of sanitation and public access, programs providing „sites and services" have been implemented. With an emphasis on quantity, they have mostly resulted in the stringing out of services along the most efficient route.

Doshi's settlement plan for Aranya, carried out with the Vastu-Shilpa Foundation, seeks to expand the concept of „sites and services" and create a new model for the architect's role in housing, as the supporter of people's initiative to build for themselves. Through intelligent planning of the site, and through the creation of mechanisms to encourage residents in their own

efforts, the architect can structure space to address community issues and strengthen a social framework. Aranya is about creating social structures; for Doshi this is ultimately tied to his growth as an architect through a deepening of social engagement.

In his pivotal role as a founder, teacher and the architect of Ahmedabad's Centre for Environmental Planning and Technology (CEPT), Doshi has profoundly affected the way young Indian architects design and think about architecture. His friendships with internationally known architects such as Christopher Alexander, and CEPT's exchange programs with schools in Zurich, Philadelphia, and Syracuse, have enabled many Indian students to become acquainted with diverse approaches to modern architecture.

Doshi's project for the Bharat Diamond Bourse (1992-ongoing) in Mumbai (Bombay) is the largest private undertaking in post-colonial India. Here he utilizes highly technological materials to realize an architecture that aspires to be considered as an equal to recent work in the industrialized world. It expresses a confidence in the present that many Indians also share. Still, the need for the past as a steadying influence amid the fast moving events and uprooting of values in the present remains strong. While the outward appearance of the Diamond Bourse may appear Western, it has a spatial quality that is not forced for the sake of visual gymnastics, but responds to the differing ways in which Indians and Westerners perceive and use space.

A Different Approach to Past and Present

Another architect of particular importance to India's maturation in architecture and planning is Charles Correa. In his earliest projects, Correa, like many architects of his generation, shows a debt to the work of Le Corbusier and Kahn. His brick and concrete clustered pavilions for the Gandhi Smarak Sangrahalaya (1958-63), for example, refer directly to Kahn's Bath House for the Jewish Community Center in Trenton, New Jersey (1954-1959). By the late 1960s the use of exposed brick and concrete had become ubiquitous among Indian architects. Correa had by then begun to favor smooth stucco surfaces. This expressed his growing interest in vernacular architecture and also recalled the Art Deco buildings featured prominently along Bombay's Marine Drive. This material provided a spirit to his work that was both modern and traditional, and emphasized his interest in shaping dramatic spaces, rather than expressing structure or the construction process.

Over the last several decades Correa has evolved an approach to design that draws upon traditional Indian forms and ordering devices, which he uses to create buildings that are nonetheless unmistakably modern. Correa's interest in the multiple meanings of architectural form was vividly illustrated in the architecture exhibition „Vistara," which he directed as part of the Festival of India in 1983. The Festival, which traveled to Europe, Japan, and the United States, was launched by the government of India to communicate the country's cultural and spiritual values and to display its rich craft heritage. It brought about a renewed respect for genuine folk art both in India and abroad. Correa's architecture section presented a comprehensive survey of India's architecture that included great monuments of the past, vernacular buildings, colonial and modern works, including Le Corbusier's and Kahn's, and a selection of projects from India's contemporary architects. Instead of being treated as a succession of styles, Indian architecture was seen as representative of three themes: mandala, where architecture is an analogue to the cosmos, manusha, in which architecture is the measure of man, and manthana, which involves the absorption of new myths into an existing construct. The continuity of myth, and its appearance and reappearance in Indian design, he felt, allowed the development of an architecture using concepts that guided the past.

The culmination of Correa's polysemous approach to architecture is the Jawahar Kala Kendra, an arts center in Jaipur (1986-1992). Using a modern structure to carry references to the past, Correa employs a literal iconography that gives a clearly recognizable Indian identity to this work. The entrance, the dome of which mimics a Buddhist stupa (traditionally a form to be circumambulated, not entered), is decorated on the underside with a Jain cosmological diagram. This introduces visitors to a building that juxtaposes the symbols of many different traditions. Correa's architecture fosters in the observer continuous changes of perception, produced by the use of forms and references in settings quite different from those in which

they were traditionally experienced. This approach acknowledges the constant reinterpretation of the past in the postmodern world; it is also unsettling to some, who are uncomfortable seeing such literal references outside their accustomed contexts.

In recent work Correa has tapped into the richness of India by involving artists in his architectural projects. Generally they are brought into the project to enliven stucco surfaces and occasionally to make free-standing elements, such as the oversize figures in a courtyard of his Inter- University Centre for Astronomy and Astrophysics in Pune (1988-92). The most compelling example of the collaboration between architect and artist occurs at the British Council building in New Delhi (1987-92), executed with the English painter Howard Hodgkin. Here, Hodgkin's black shadows of a Banyan tree are projected in three dimensions to activate Correa's symmetrical entrance facade. The application of bold marble inlay refers to its traditional use in Mughal architecture. As in the past, architecture and art are successfully integrated, to a degree that rarely occurs in modern buildings.

Correa has also played an important role in helping to shape thinking about India's cities. While significant economic progress has taken place in India since independence, gross economic inequality remains. Massive influxes of poor people from rural areas into the cities have created tremendous problems of shelter, sanitary services, and transportation. Nowhere is this more evident than in Bombay, India's largest city and commercial capital. Correa recognized early on that the primary requirement for any solution to this situation was the development of the political will to confront it, and to change the underlying patterns of land use that reinforced inequitable development. In 1964, Correa, Pravina Mehta, and Shiresh Patel proposed the creation of New Bombay across the harbor from the existing city, as a way to reduce the concentration of job opportunities in the existing central business district that produced high land prices, and, accordingly, made the provision of decent housing to much of the population impossible. From 1971 to 1974, Correa served as chief architect to the government authority established to implement the New Bombay plan, and in that capacity elaborated his ideas for the reallocation of land uses and the creation of a new transportation infrastructure. In direct, non-technical language in his 1985 book The New Landscape, Correa further developed his analysis. He drew lessons for architects and planners from the inventiveness with which squatters provide shelter for themselves. Correa argued for „disaggregation" of the physical needs of the city, in order to open the eyes of architects, planners, and politicians to the importance of localized, small-scale solutions. His book addressed the problems of Third World cities in general, with an optimistic and urgent plea for transformation of the standard processes of urban development.

Starting with his participation in a group of twelve international architects invited by the United Nations and the government of Peru to design low-cost housing in Lima in 1969, Correa has helped set up a dialogue among architects of the developing world. This has helped to shift the attention of India's architects from a predominantly Western bias. Today Correa continues his active participation in the international architectural community. Frequently abroad, speaking at conferences, delivering lectures, acting on juries and teaching, he has worked to promote an international awareness of India's particular situation in the modern world, and of the possibility of an architecture that is both modern and recognizably Indian. Although much attention has recently focused on India's traditions, the nation is still involved with its project of modernization, which has built a powerful industrial force. Modernism has taken root in India, even if not as completely as in the West. However, it is no longer the overwhelming and singular commitment that was defined by the West and appeared in the early years after independence.

India Now

Over the past decade, structural adjustments in the Indian economy have created vast changes in the way of life of many of its inhabitants. Nehru's ambition for self-sufficiency and the socialist goal of economic equality prevalent at independence have given way to increasing participation in the world marketplace. No longer is India's economy seen as internal to the nation. A rising middle class, caught up in the international mood of consumption, is creating a new national image that links India with the most recent technological advances

taking place in the West and Asia. Cities such as Bangalore are positioning themselves within the highly competitive global market as new Silicon Valleys, and a very visible segment of urban India is geared to capitalize on the nation's gains in education, especially its achievements in science.

While the government remains active as a client for architects, it no longer plays the dominant role that it did in the early years after independence, when it was the major director of India's vast building program. Now, private developers have taken over this role in order to meet the needs of the growing market. Both their number and the number of architects have grown substantially. In response to the demand for architects, numerous private schools of architecture, many established by the construction industry, have appeared in urban centers. Today there are more than ninety schools of architecture in India, and most graduating architects enter into private practice rather than the government's Public Works Department. The Indian architecture profession has indeed gained its independence from engineering.

As activists, Kanvinde, Doshi, and Correa have played major parts in shaping the architectural profession and society. They have helped to establish the multiplicity of roles that are possible for architects in India today, prime among these being the relationship to the country's poor, especially in urban areas. As practicing architects, each has gone beyond the formal boundaries of the Modern Movement to evolve a personal approach that acknowledges Indian traditions. For Achyut Kanvinde, the past remains secure within the domain of the home and religion, separate from the material world of the state and the economy. This separate co-existence represents a modern division of Indian life that was accepted at independence to safeguard the new institution of democracy. Balkrishna Doshi has endeavoured to bridge modern architecture to a lived and unconscious India. He relies not upon images of the past and is in fact confident that meaningful rituals can be best supported by modern forms. His architecture is deepened by associations to local customs. In the work of Charles Correa, the past and present stand juxtaposed. Both have entered the imagination of this architect who connects to a literate and self- conscious India. His strong and dramatic modern spaces draw on traditional understanding and supplement the past with a new set of associations.

Modernism is a vital part of India's contemporary character. Its energies are not exhausted; its rigor and ability to cross borders continue to be relevant. Today, the global and the local have become inextricably intertwined; influences from East and West are intermingled. All contribute to the fluidity that has always been India, whose identity has never been fixed.

Mumbai - Informationen

in: Professur Wolfgang Schett, ETH Zürich, *Bombay-Ahmedabad*, Seminarreisereader HS 2008, Zürich, 2008, S. 23.

Einwohner 2015 21,86 Mio.

Menschen pro qkm: 29 650 (am dichtesten besiedelte Stadt der Welt; Berlin: 3850)

Anteil der Bewohner Mumbais, die in Slums wohnen: 54 %

Jährliches durchschnittliches Pro-Kopf-Einkommen in Mumbai: 540 Euro

Platz in der Liste der lebenswertesten Städte 2007: 151 von 215

Anteil der Bevölkerung Indiens, der in Slums lebt: 55 %

Landbesitzverhältnisse der Slums in Mumbai: privat 48 %, Landesregierung 21 %, städtisch 17,6 %, Zentralregierung 4,7 %, Indian Railways 0,7 %, gemischt 7,7 %

Arbeitsweg in Mumbai: zu Fuß 44 %; Zug 23 %, Bus 16 %; eigenes Auto 2,7 %

Anteil Mumbais am BIP Indiens (geschätzt): 15 %

Anteil der 1-Personen-Haushalte: 1,1 % (Berlin: 51 %)

Anteil der Haushalte mit 8 oder mehr Personen: 3,2 %

Mumbai - Stadtteile

in: Professur Wolfgang Schett, ETH Zürich, *Bombay-Ahmedabad*, Seminarreisereader HS 2008, Zürich, 2008, S. 22.

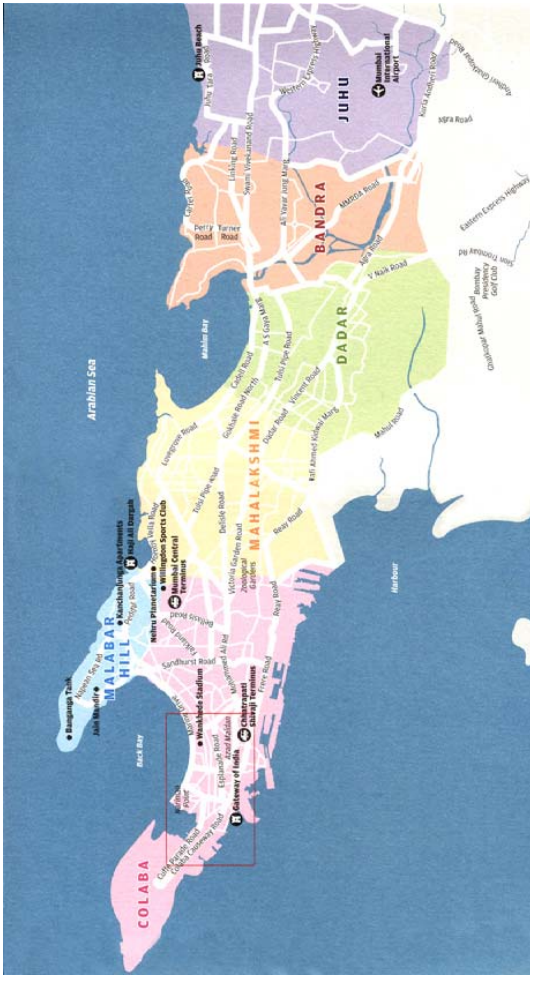
MALABAR HILL
Still relatively leafy and mostly populated by Jains, this is considered to be the city's best address, though due to a surge in real-estate prices, skyscrapers are fast replacing its bungalows. Outside the Jain temple, however, life goes on, unaffected by these changes. Every evening, local chefs really do hitch up their traditional garb, squat under the banyan tree and contemplate the weather.

JUHU
Known for its endless beach, Juhu is also where most of Bollywood finds itself, when not prancing around trees. The contrast between the string of hotels and private residences dotted along the beach and visiting hoi polloi, up for the weekend, is testament to the extreme contradictions that characterise modern Mumbai. Due east is Andheri, where the international and domestic airports are located.

COLABA
Named after the Koli fishermen, the city's original inhabitants, Colaba is Mumbai's main tourist precinct and centre of the modern city. The westward side of Cuffe Parade is home to the city's bourgeoisie, and is full of hotels, restaurants, bars and nightclubs that exude an international gloss. Only the Fort area will satisfy any nostalgic yearnings for the old British Bombay. Marine Drive allows one to regard Mumbai at its most ironic.

BANDRA
Mumbai's MTV generation lives here in the new commercial district and the Bandra Kurla complex, the stomping ground of a new breed of yuppie. Currently the city's most favoured suburb, with smart bars and a plethora of shops on Linking Road, it indicates a marked shift in spending power. But in the face of such rabid transformation, the bungalows of Pali Hill have endured and remain well preserved.

DADAR
The residential quarters of Mumbai's Maharashtrian population, Dadar is also the stronghold of the local right-wing nationalist party, the Shiv Sena. Shivaji Park, which was once famous as the training ground of some of India's greatest cricketers, is now a platform for recruiting Hindu fundamentalists. Correspondingly, Mahim, which is sandwiched next to Asia's largest slum, Dharavi, is where the city's Christian community collects itself.



Mumbai - Entstehung

in: Professur Wolfgang Schett, ETH Zürich, *Bombay-Ahmedabad*, Seminarreisereader HS 2008, Zürich, 2008, S. 24-31.

Imperial Ambitions

Portuguese explorers had already arrived in Goa in the 16th century, on a mission to wrest control of the near-priceless spice trade from the Arabs and win souls for Christendom. One of the first recorded visits of the Portuguese to Bombay was in 1508, when a ship halted briefly at Mahim Island while travelling to an outpost at Diu in Gujarat.

For the next two decades the Portuguese kept making short visits to the islands and in 1532 they finally seized Bassein (now Vasai, just north of Mumbai's municipal limits) from Sultan Bahadur Shah of Gujarat. From here the Portuguese took the entire region, including the seven islands. At that time, the Arabian coast was a bustling region of trading ships and seaside outposts. The Portuguese already possessed Goa, Daman and Diu, and Vasai became an important part of their maritime trade network.

To protect their shipping routes, the Portuguese fortified the islanded region, establishing cannon-equipped outposts at Mahim, Sion, Bandra and of course in Bassein. It was around this time that the region got a new name - ‚Ilha da Boa Vida', meaning ‚the island of good life' in Portuguese. When the Portuguese first came to the place they called ‚Bandora', now Bandra, they found an ideal spot: a strategically important point overlooking the sea, amply supplied with drinking water from nearby freshwater springs. In 1640, they stationed a permanent garrison of troops here and built a small fort, which they called the Castella de Aguada (‚The Water Point'). Armed with a pair of cannons, the garrison kept watch over sea lanes crucial to Portuguese trading interests. Anxious about the spiritual wellbeing of their troops, they also built the Chapel of Nossa Senora de Monte (‚Our Lady of the Mount') nearby and cut a road linking it to the fort.

Over the next 100 years the region's social history was shaped by Portuguese religious, economic and political impulses and resembled other Portuguese outposts - including Goa and Daman in India and Malacca in Malaysia. Many village communities from Mahim to Vasai converted to Christianity and the landscape became punctuated with churches and chapels. The Portuguese destroyed the Walkeshwar Temple, which was eventually rebuilt in 1715 by a wealthy Hindu trader. Over 350 years later, the Nossa Senora de Monte church - now known as Mount Mary':" is still a place of worship. At the fort, only ruins remain (now restored and home to a gorgeous amphitheatre). Thane, to the north east of the islands, became an attractive township of villages, temples and churches nestled between lakes and coconut groves.

For all the development, the Portuguese still didn't see much trade potential in the area and it remained a backwater. Instead it was their rivals, the British East India Company, who cast a covetous eye over the area from their headquarters in Gujarat. They considered it a perfect natural harbour for the Company's first Indian seaport. The main attraction of course was the deep bay on the eastern waterfront overlooking the mainland. The Surat outpost began pressing its London headquarters to purchase the islands from the Portuguese. They finally got their hands on them in 1661, when they were given to King Charles II as part of the dowry for his marriage to Portuguese princess Catherine de Braganza. Apparently, Charles was not exactly sure where his wedding present was; he initially thought that the islands were somewhere in Brazil. In 1668, he leased the islands to the British East India Company for the sum of 10 pounds a year and the Company quickly established a colony in and around an existing Portuguese fort, which grew rapidly from 10,000 people in 1661 to 60,000 by 1675.

In 1687 the East India Company transferred its headquarters from Surat to what the British now called Bombay.

Birth of a trade hub

Bombay's early population mostly comprised Koli fisherfolk, East India Company officials and migrants from Gujarat who set up shop to service the outpost. Among the migrants were an emigre community of Iranian Zoroastrians known as Parsis, who were to become a decisive commercial and political force in Bombay's development. That was foreshadowed earlier in the colony's history by the actions of a Parsi trader, Rustomji Dorabji: just two years after the Company moved to Bombay, the outpost was beset by a plague outbreak. At the same time, a nearby Africa-descended tribe called the Sidis launched an attack on the colony from their base down the coast in Janjira (near present--day Alibag). Despite the chaos caused by the plague, Dorabji managed to raise an impromptu army from the local Kolis and repelled the Sidis in a counterattack - saving the colony and killing the Sidi chief in the process.

That the size and influence of the Parsi presence was strong very early in Bombay's history is proved by the fact that a Tower of

Silence - a traditional Parsi funeral place, where bodies are left to be consumed by vultures - was built on Malabar Hill in 1672.
In 1708 the first Parsi agiary (fire temple) was built - the Banaji Limji Agiary - with a second in 1733. Two years later, the Parsis set up a shipbuilding industry, which later became one of the largest suppliers of ships to the British Royal Navy. A young Parsi shipbuilder from Gujarat, Lowji Nusserwanji Wadia, was invited to Bombay by the East India Company to build them ships, an enterprise that led to the Wadia dynasty of shipbuilders.
The Parsis remained at the forefront of the city's development and in 1777, its first newspaper, the Bombay Courier, was published by Rustomji Keshaspathi. The city's main activity was as an import-export hub: diamonds, tea, paper, porcelain, raw silk, calicoes, pepper, herbs and drugs sailed out to Britain and lead, quicksilver, woollen garments, hardware and bullion sailed in. Bombay's status was further boosted by an increase in cotton trade with China after 1770, an exchange that continued over the next century.
During this period the city saw a continuous migration of traders from Surat, which further energised the economy. Some historians suggest that the rise of Bombay as a successful trading hub precipitated the decline of Surat, which soon lost its cherished status as a major port. In subsequent years, the islands began to attract many Gujarati traders (both Hindu and Muslim), including Parsi shipbuilders from the mainland. Most people lived in and around a fort at the heart of the colony, originally built by the Portuguese and further developed by the British. Known as Bombay Castle, it was essentially a walled township in the area of the city today known as Fort.
A fragment of the fort wall still exists next to St George's Hospital. By 1813, almost half of the 10,000 people who lived in the Fort area were Parsis. As it became more and more crowded and often prone to disease, its richer inhabitants began to move out to new townships beyond the walled city, building bungalows and mansions in the city's first suburbs: Byculla, Mazgaon and Malabar Hill.

Shaping the city

By the beginning of the 19th century, business in Bombay was booming, so much so that in 1801 the British Government sent a reporter to document the extent of the city's trade. His reports convinced them to end the East India Company's monopoly on

trade in 1813, encouraging even greater commercial expansion. A few years later, a massive civil engineering project to reclaim land from the sea was commissioned, its aim to fuse the disparate islands of Bombay into a single land mass. Over the next few decades, as the city took shape, a large middle-class population emerged that drove a huge demand for newspapers, schools and colleges.
In 1822, India's first Indian-language newspaper, the Gujarati daily Mumbai Samachar, was published in Bombay. Still running today, it's the country's oldest newspaper. The first copy of the Bombay Times (the forerunner of the Times of India) rolled off the presses in 1838. Grant Medical College was founded in 1845 and within another 15 years, Wilson College and Bombay University were established. Other colleges like Elphinstone

College and St Xavier's went up within a decade. Both the new media and colleges were largely patronised by children of Gujarati merchants and traders, the indigenous Christian populations and Maharashtrians. Middle-class suburbs sprung up in the new neighbourhoods of Kalbadevi, Girgaum, Gowalia Tank, Mohammed Ali Road, Thakurdwar and Walkeshwar.

By the middle of the 19th century, the knitting together of Bombay's islands through land reclamation was nearly complete. Causeways linked Bombay, Sion, Salsette and Colaba; Mahalaxmi and Worli were joined; and in 1845, Mahim and Bandra were connected by the Mahim causeway thanks to a rich Parsi - Lady Avabai Jamsetjee Jeejeebhoy - who paid Rs 157,000 for it. Legend has it that she prayed at several religious sites for the survival of a sick child. When the child recovered after she prayed at Mount Mary Church, Lady Avabai built the causeway to allow more devotees access to the Virgin Mother without having to take a ferry.

As the physical landmass came together, Bombay's political and commercial links with the Empire were tightened. A regular steamship service between the city and London was established in 1843; fifteen years later, direct British Government control of the Indian colony was established after the First War of Indian Independence (the ‚Sepoy Mutiny') in 1857, which led to all of the East India Company's formal political powers being handed to the Crown.

Urbs prima in Indis

By 1845, the basis of a modern city had been created with land covering 170 square miles - a complex landscape of fields, coconut groves and outsize colonial structures, of cosmopolitan enclaves and sleepy villages. Bombay was the starting point of India's first passenger railway line in 1853, connecting the city to Thane in Maharashtra.

In the 1860s the British began a construction programme, erecting architecture that was designed to signal to the natives that they were here to stay - a direct response to the Indian uprising of 1857. Victoria Terminus, the Prince of Wales Museum, Bombay University, the General Post Office, the Old Customs House, Elphinstone College, the Public Works Department Building - all were begun in the 1860s. With typical imperial hyperbole, they began to refer to Bombay as ‚urbs prima in Indis' - the first city of India.

In 1864, The Bombay, Baroda and Central India Railway (later merged with other railways to form what is now the Western Railway) were extended to Bombay, boosting the flow of cotton from the hinterlands. Cotton now dominated trade through Bombay. Raw cotton from Gujarat was shipped to Lancashire in England, processed into cloth and then shipped back via Bombay to be resold in the Indian market. Although cotton trading was the city's main activity, businessmen began to recognise that spinning the cotton themselves could make bigger profits. In 1854 a Parsi, Cowasji Nanabhai Davar, opened the first cotton mill, The Bombay Spinning Mill.

It was met by vociferous opposition from Lancashire mill owners anxious to avoid the ‚outsourcing' of the cotton spinning business, and was only pushed through thanks to the influence of the British manufacturers of the cotton looms. In 1870, around 13 mills were in operation in Bombay. The shipping of raw cotton was still the main engine of the city's economy, however, and it received a massive boost when the American Civil War broke out in 1861. The war forced global markets to look for alternative sources of cotton for the booming textile industries of Britain and other countries in Europe. Bombay consequently became the world's foremost cotton supplier, with money pouring into the city until the war ended in 1865.

Within a year of the war's end, however, most of the companies were liquidated and many speculators went bankrupt. In spite of this, the city continued to grow, using the wealth generated

during the boom to make itself over by shifting more and more into cotton spinning. The city's strategic location as a trade hub was given a further boost with the opening of the Suez Canal in 1869. By 1895 there were 70 mills in the city, rising to 83 in 1915 before stagnating in the global recession of the 1920s. Despite continued British political control, Indian families owned most of Bombay's cotton mills. In 1925, only 15 mills were British-owned, and even then the management was mostly Indian.

With the growth of the mills, Bombay's population rapidly increased as thousands of Maharashtrians migrated to the city to work the looms. The workers, usually male, initially lived in hostels and dormitories but eventually the ‚chawl' - a tenement still in use today in which each family has one room, with all sharing a common verandah and toilets - emerged as basic housing for workers and their families. The workers settled close to the mills, with new neighbourhoods springing up in Byculla, Lalbaug, Parel and Worli. These neighbourhoods were often referred to by one name - Girangaon - the ‚Village of Mills'. It was a dynamic cultural space and spawned generations of writers, poets and dramatists in Marathi and Gujarati. As the city grew, more land was reclaimed and more roads, causeways and wharves were built. The population had already increased from 13,726 in 1780 to 644,405 in 1872. By 1906 it had become 977,822. The British continued to develop the city's infrastructure, with innovations such as the drainage system that continues to serve the city today. It was in 1860 that piped water began to flow to the city from Tulsi and Vihar lakes, and in 1870, the Bombay Port Trust was officially formed. The Princess Dock was built in 1855, followed by Victoria and Mereweather Dry Docks in 1891 and Alexandra Dock in 1914.

Tholerate thy neighbour

From its early beginnings, Bombay had been a vibrantly diverse city of Europeans and Indians from across the subcontinent, and by the 19th century, the lines between communities had been drawn - but an uneasy tolerance prevailed. Europeans socialised amongst themselves in sports clubs, with cricket as the main recreation. The Bombay Gymkhana was set up in 1875, exclusively for Europeans, spurring other communities, including Muslim, Hindu and Parsi, to set up their own gymkhanas, all in a line by the sea along Marine Drive. A friendly rivalry developed between them; with a regular ‚Pentangular' cricket tournament (the fifth

team was called, and made up of, ‚The Rest'), never failing to make headlines in city newspapers.

The British maintained their control in the city through a paradoxical combination of a reputation for fairness and a shameless policy of divide-and-rule. In the 1880s, the commander of the Bombay police was a British superintendent named Charles Forjett, who was greatly admired by Indian residents for his harsh treatment of corrupt policemen and for conducting regular operations against the Parsi mafia who controlled the illegal liquor business in the Falkland Road region. The British were concerned about the power of religious festivals to encourage a desire for political independence, and tried to regulate them, albeit tentatively.

The nationalist and freedom fighter Lokmanya Tilak saw the same potential and transformed the Ganpati festival, once celebrated on a small, domestic scale across Maharashtra, into a large-scale, outdoor event. He brought his supporters to Bombay's beaches, ostensibly to immerse idols of the elephant-headed Ganesha in the sea as per tradition, and then gave fiery speeches about their political responsibilities and the dream of swarai (self-government). The British were checked from interfering too much in religious issues by the lessons of 1857, in which a rumour about rifle cartridges being made with pig and cow fat (thereby offending both Muslims and Hindus) had sparked an army rebellion that nearly lost them the colony. The British left Tilak largely alone and mass immersions during

the Ganpati festival continue to this day, with its freedom--movement origins largely forgotten.
Instead of direct action, the British responded to such challenges to their authority with the same divide-and rule-policy they had used all over the country - by playing Hindus and Muslims off against each other. It was hardly difficult for the British in Bombay, a city where communities were already naturally divided into different enclaves. With so little official thought put into planning residential neighbourhoods for the poorer or even middle-class populations, the only support network for those looking for homes or the means to build them came from within their own ethnic groups. As the city became increasingly politicised, communal riots began to plague Bombay for the first time.

A new century

Bombay was still a city among other Indian cities. But in 1875, the basis for its current status as India's economic capital was established with the Bombay Stock Exchange - then referred to as the Native Share and Stockbrokers Association. As the cream of India's professional talent flooded into the city, political movements began to flourish. Political ferment saw the establishment of the Indian National Congress - the first Indian political party - in 1885 at the Gokuldas Tejpal College in South Bombay.
By this time a lack of adequate urban planning was causing large parts of the city to choke from over-congestion, a problem that became disastrous just a few years before the end of the 19th century, when bubonic plague broke out, possibly carried by rats on grain ships from Hong Kong. Thousands fled the city and Indian and foreign ports quarantined all goods arriving from Bombay, with ruinous consequences for the city's economy. The tragedy was compounded by the failure of the monsoon in 1899, leading to one of India's worst-ever famines. The British authorities responded to the catastrophe by setting up a City Improvement Trust to encourage the development of the suburbs and relieve pressure on the southern part of the city.

By the beginning of the 20th century, the first outlines of the character of modern Bombay had begun to emerge. By 1906, the city's population had topped one million. It quickly became a hot-bed of the new politics that would lead to Indian Independence, fired up by Mahatma Gandhi's return from South Africa in 1915. Gandhi took a house called Mani Bhavan in Gamdevi, from where he began to rally citizens to the cause. Prominent Bombay businessmen, traders, workers and professionals became his votaries. Technological innovations that had slowly emerged in the West were implanted in Bombay in rapid order, with the first transmission lines of the Tata Power Company criss-crossing the city's skyline in 1915. In 1926 the first motorised bus service started between Afghan Church and Crawford Market. The first electric train started in 1927, an intercity service from Bombay to Pune and Igatpuri. A few years later the first electric commuter train (still known in Mumbai as ‚EMUs' - Electric Multiple Units) rolled out. In 1932, the Parsi industrialist JRD Tata flew the first scheduled airmail flight from Karachi to Bombay via Ahmedabad, landing his single--engined de Haviland Puss Moth on a grass strip at Juhu Aerodrome.
The Lumiere Brothers' Cinematographe showed four silent short films at the Watson's Hotel in Bombay in 1896, charging an entry fee of one rupee. It was a phenomenon that the Times of India described at the time as ‚the marvel of the century', and quickly fired the imaginations of a generation of Indians. The Indian film industry was born in Bombay a few years later. A man named HS Bhatavdekar filmed the city's first documentary in 1899, of a wrestling match, which he showed across the city to general acclaim. The first full-length feature film, Raja Harishchandra, was made in 1913 by Dadasaheb Phalke and shown at Bombay's Coronation Cinematograph. By 1920, the Indian film industry was fully formed, with Bombay at its heart. By 1931 about 207 films were being made every year.

Bombay's western bay in the 1880s....

...and in the 1990s.

Growing the pains

After ‚freedom at midnight' gave birth to independent India on 15 August 1947, Bombay continued to expand beyond the suburbs of Mahim and Bandra - erstwhile Portuguese areas - swallowing up everything as far north as Mankhurd, Mulund and Dahisar. The city became the capital of Bombay State, a political creation that included the whole of what are now the two separate states of Gujarat and Maharashtra. In the following years Bombay became a battlefield for political movements based on language groups, mainly its Gujarati- -and Marathi-speaking populations. The Samyukta Maharashtra Andolan was a major political force of socialists, trade unions and artists that fought fiercely for the formation of an independent state for Marathi-speaking people, with Bombay as its capital. They finally achieved their wish and Bombay State was split into two in 1960, but only after 105 of the movement's supporters had been shot dead by police during tumultuous political protests around Flora Fountain earlier the same year. A memorial at what is now called Hutatma Chowk commemorates the dead with an eternal flame.

Bombay's politics in the 1960s and 1970s remained dynamic and dominated by the Left, with the working class mill areas of central Bombay as a Communist heartland. But a splinter of the Samyukta Maharashtra Andolan morphed into a nativist movement - the Shiv Sena (‚Army of Shivaji'), which won continued influence with its Right-wing anti--outsider politics in the face of growing slum encroachment by immigrants from outside the city. During the 1970s the city overtook Calcutta as the most populous city in India.

A lack of political will, cushioned by a healthy economy benefiting from cheap labour, allowed slums to proliferate on a scale that had never been seen before. In the process, the Shiv Sena fired the imagination of the working class, displacing the old dominance of the Left. Its founder, a former cartoonist named Bal Thackeray, came to dominate the city's political landscape using a combination of brutal mafia-like force and a string of local election victories. The decline of the textile industry contributed to this political shift and, after a catastrophic mill workers' strike in 1982-83, the century-old cotton-spinning industry effectively died in Bombay. With its passing, the mill workers lost their key position in the city's economy and politics.

The 1970s and early ‚80s were an exciting decade in the city's cinematic history, with the emergence of filmmakers determined to set themselves apart from the mainstream Hindi film industry. They began to make realist and neo-expressionist films with strong elements of social commentary.

City authorities made few infrastructure improvements in the 1970s and ‚80s, despite the alarmingly rapid growth in the city's population. The largest was a plan to create New Bombay (now known as Navi Mumbai) - a parallel city across the harbour on the mainland, built to decongest the island city. It began slowly, faltered, and even today has yet to live up to its original aims.

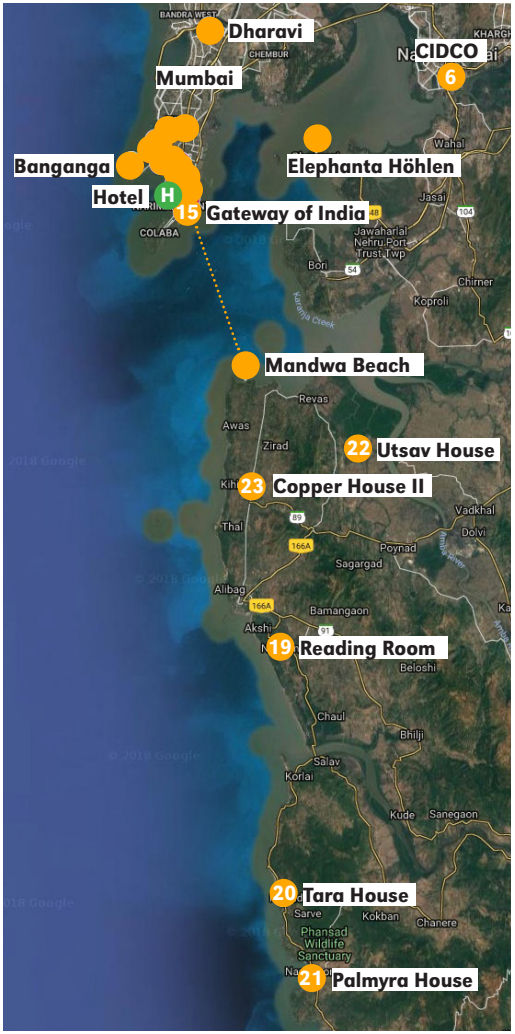
The Shiv Sena continued to rise throughout the 1980s, thanks to the decline of the Left and increasingly visible corruption in the Congress. It was a political combination that proved to be lethal, culminating in the horrendous Bombay riots of 1992-93 - incidents that were in fact state-sanctioned and party-sponsored pogroms against Muslims. The violence erupted after the Babri Mosque was razed by Hindu militants in the city of Ayodhya, in the North Indian state of Uttar Pradesh. Hundreds of Muslims were killed by Hindu fundamentalists during the riots. On 12 March 1993 came ‚Black Friday', when 13 bombs exploded in one day at locations across the city, including the Bombay Stock Exchange and the Air India Building.

Two hundred and fifty-seven people were killed in what were revenge attacks by a Muslim group for the slaughter two months previously. The riots and bombings were a shattering blow to Bombay's self-image as a cosmopolitan, secular city s had avoided the communal violence that afflicts other Indian cities. It paved the way for the Shiv Sena's rise to power at both city and state levels and, in 1995, they changed the official name of the city to Mumbai. Since then, Mumbai has been the victim of sporadic terrorist attacks, most recently in July 2006, when bombs tore through the first class compartments of seven commuter trains on the Western Line, killing more than 200 people.

(Text: Time Out Mumbai, 2008)

Bild: Koloniale Architektur in Mumbai

MUMBAI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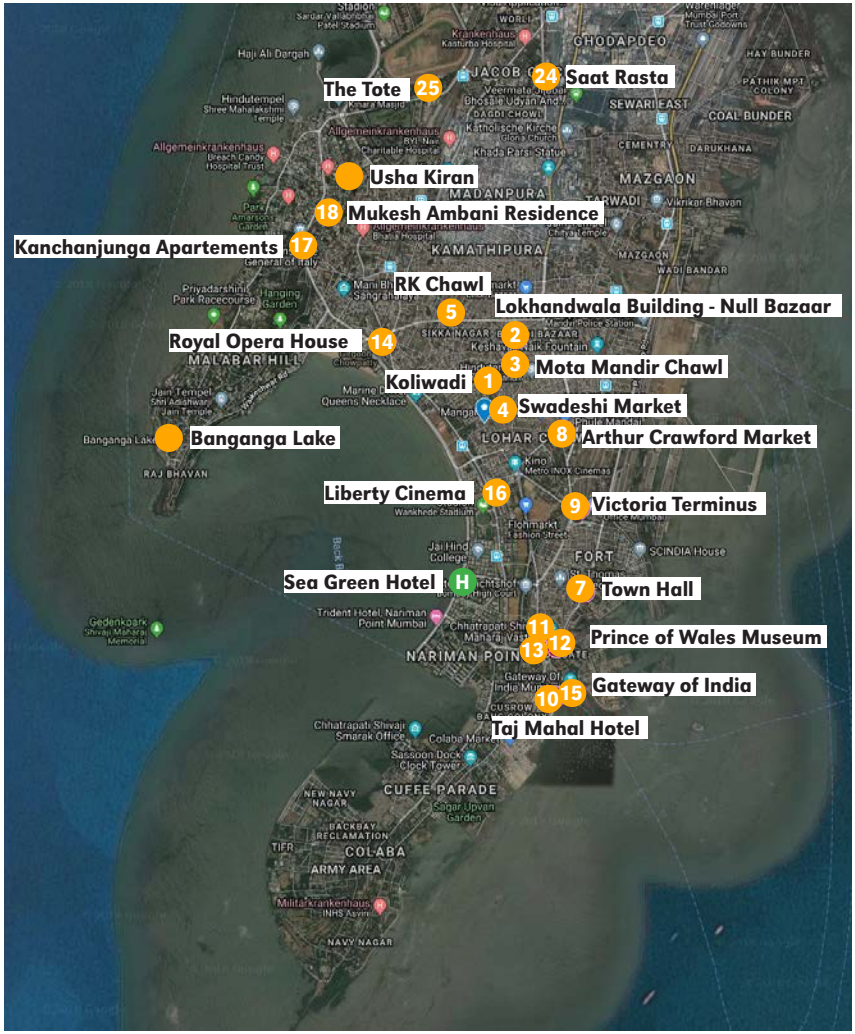
The Tote
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Saat Rasta
Usha Kiran
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Mukesh Ambani Residence
Kanchanjunga Apartements
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RK Chawl
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Lokhandwala Building - Null Bazaar
Royal Opera House
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Mota Mandir Chawl
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Swadeshi Market
Banganga Lake
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Arthur Crawford Market
Liberty Cinema
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Victoria Terminus
Sea Green Hotel
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Town Hall
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Prince of Wales Museum
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Gateway of India
Taj Mahal Hotel


H Sea Green Hotel
7 Town Hall
Prince of Wales Museum
11
13
Visitor Centre
12 Prince of Wales Museum - Extension
Taj Mahal Hotel
10
15 Gateway of India


17 Kanchanjunga Apartements
RK Chawl
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Lokhandwala Building - Null Bazaar
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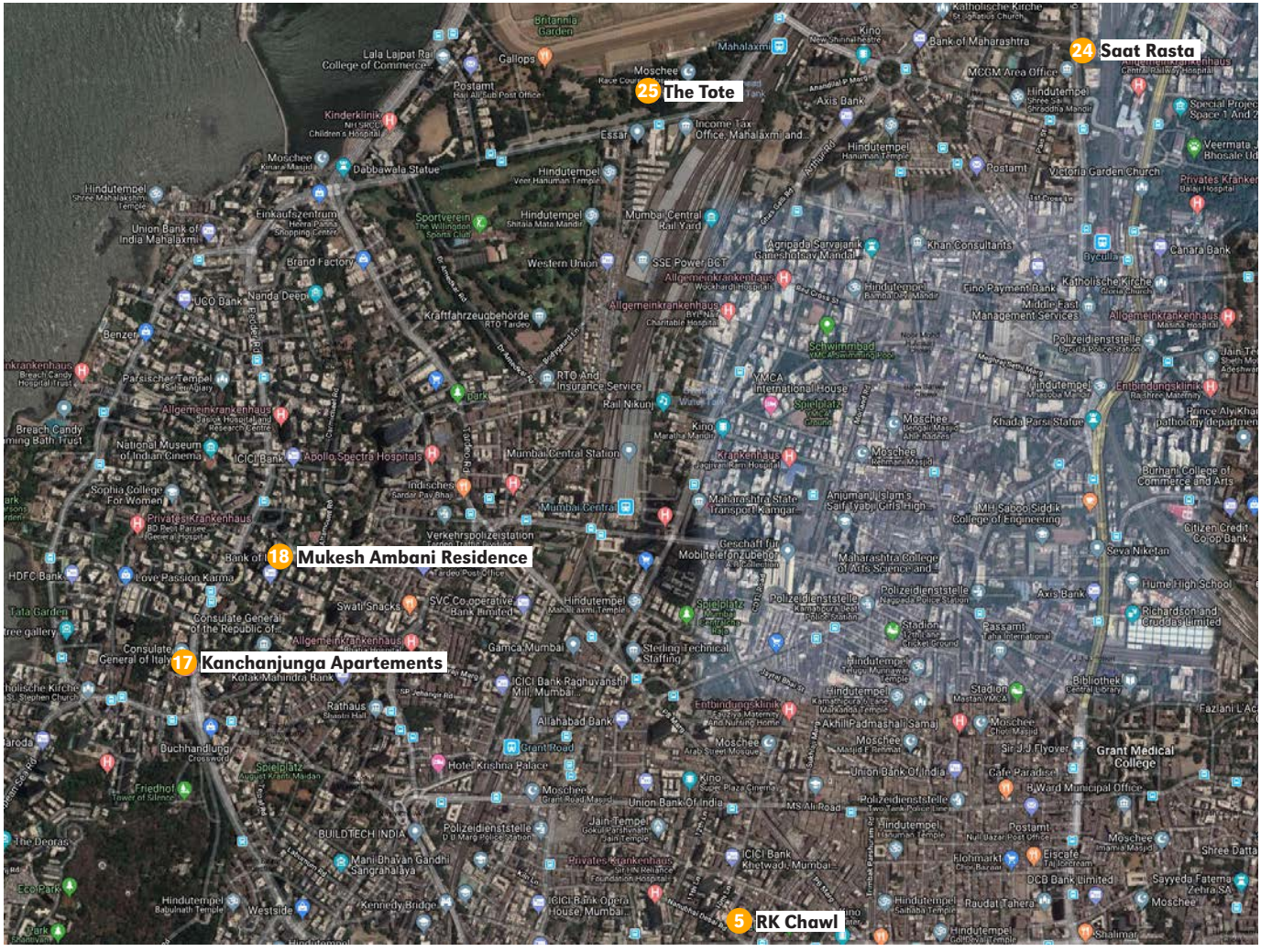
Victoria Terminus


24 Saat Rasta
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18 Mukesh Ambani Residence
17 Kanchanjunga Apartements
5 RK Chawl

Koli Wadi

-

18./19. Jahrhundert

[...] When the economy of the city started changing from being agrarian to mercantile, the agrarian plots were hurriedly changed to accommodate the trading community. Land was developed either by the original owner or by a new owner from the trading community. Buildings were built in these plots to house the migrant traders and the trade labourers. Lower floors of these buildings were made into shops. The old names of the places still remain. The Wadis became the predominant type. A wadi is originally a piece of land. But in later developments the suffix wadi is assigned to an area with a group of buildings occupied by several households and with a single owner, who collects rent. Thus mass scale rented houses came into existence in Mumbai during the 18th and 19th centuries. The urban fabric of these settlements is densely structured. It is characterised by small nodes and open spaces with buildings around them. The fabric is essentially mixed use with shops on the ground [floor] and residences above. The 'native' settlers brought with them the artisans of the regions they came from and the influence is seen primarily in the intricately carved building skins. A building within a wadi consists of single room tenements with common corridors and shared toilets. These corridors generally overlooked a street or an open space. These buildings are generally two to four storied.

Initially it was common practice for traders to have shops in the ground floor and houses above. The buildings in the interiors would be purely residential. Usually traders of the shops stayed in the residences behind. Later years saw an exodus of large sections of the affluent trading community to other parts of the city. These premises were then rented out for residential or commercial use. In many cases traders who moved out maintained their shops. In other cases the houses were sublet to either the trade labour or to small enterprises. Commercial use slowly percolated from the ground [floor] to the floors above with people finding tactical ways to use the premises as work places.

CRIT, ***Housing Typologies in Mumbai,*** **Mumbai 2007**

Wadis der frühen Kolonialzeit (18./19. Jahrhundert)
Innenstadtgebiet Girgaon, Koli Wadi Gebäudegrundfläche: 1815 qm, Einwohnerzahl: 760, Wohneinheiten: 152, Größe: 29 qm. Wadis gehören zur Typologie indigener Handelssiedlungen aus dem 18. und 19. Jahrhundert: Hofanlagen mit Geschäften im Erdgeschoss und Mietwohnungen in den Obergeschossen. Die Nutzungsdichte ist hoch. Wohnungstypen sind vermietete Einzimmerwohnungen mit Gemeinschaftstoiletten, die über Laubengänge erschlossen sind.

Lokhandwala Building - Null Bazaar

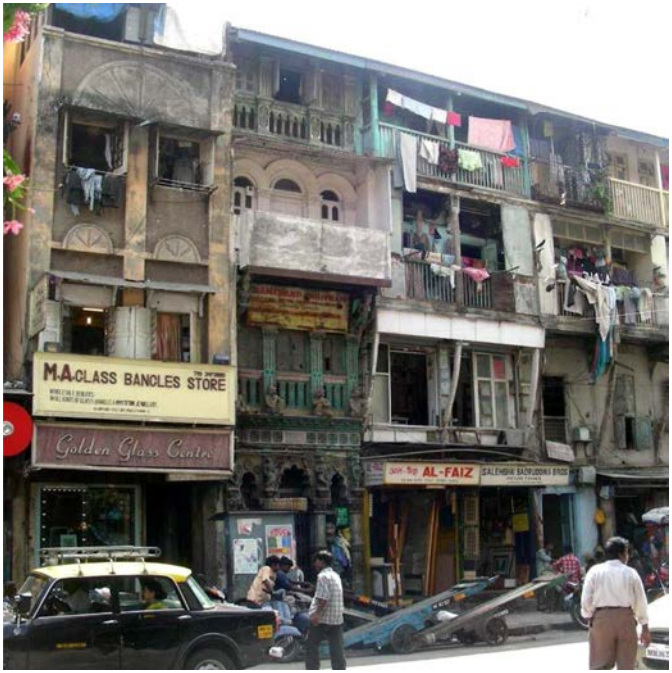
-

18./19. Jahrhundert

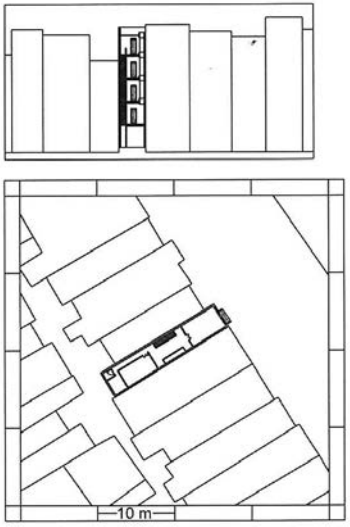
The southern part of Mumbai was developed as the colonial fort where the British lived. Immediately outside the fort, grew the large native town. The native town developed into a large market place with entire streets operating as guilds, specialising in various commodities. Even today there are several streets that specialise in single commodities. There are streets that only have textile traders or only jewellers, or glass traders. There is also a street that sells stolen goods called chor bazaar.

Here the densities of people and intensity of activities is extremely high. In case of Null Bazaar, thin types evolved that are three meters wide and twenty meters deep. This was to maximise the number of shop fronts. Houses were located on the rear of the buildings away from the road and on higher floors. These buildings are generally two to four storied. The traders often had shops in the ground floor and houses above. Later one of these used to be rented and the trader moved on to either work or live somewhere else.

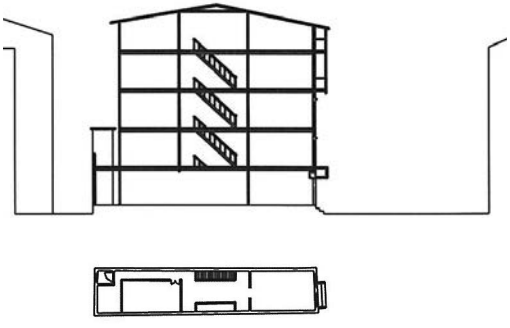
Today these areas have twin problems – of highly dilapidated buildings and over burdened infrastructure. Even then, the place commands very high real estate price. On account of such demands we see several of these older typologies being demolished and tall towers coming up in their places. While these new types promise luxurious internal spaces, the questions on overburdened infrastructure remains unanswered.



CRIT, ***Housing Typologies in Mumbai,*** **Mumbai 2007**



Bazar der frühen Kolonialzeit (18./19. Jahrhundert)
Null Bazar Market Area, Lokhandwala Building. Gebäudegrundfläche: 62 qm, Einwohnerzahl: 50, Wohneinheiten: 10, Größe: 15 qm. Im Bazar der „native Town" sind Menschendichte und Verkaufsaktivität bis heute extrem hoch. Um Platz für Ladenflächen zu gewinnen, entwickelten sich schmale und tiefe Typologien (3 m x 20 m). Die Wohnflächen liegen meist im hinteren Bereich der Parzelle. Heute sind diese Bazargebiete ein akuter Sanierungsfall mit hoffnungslos überlasteter Infrastruktur.



Mota Mandir Chawl
-
ab 1801

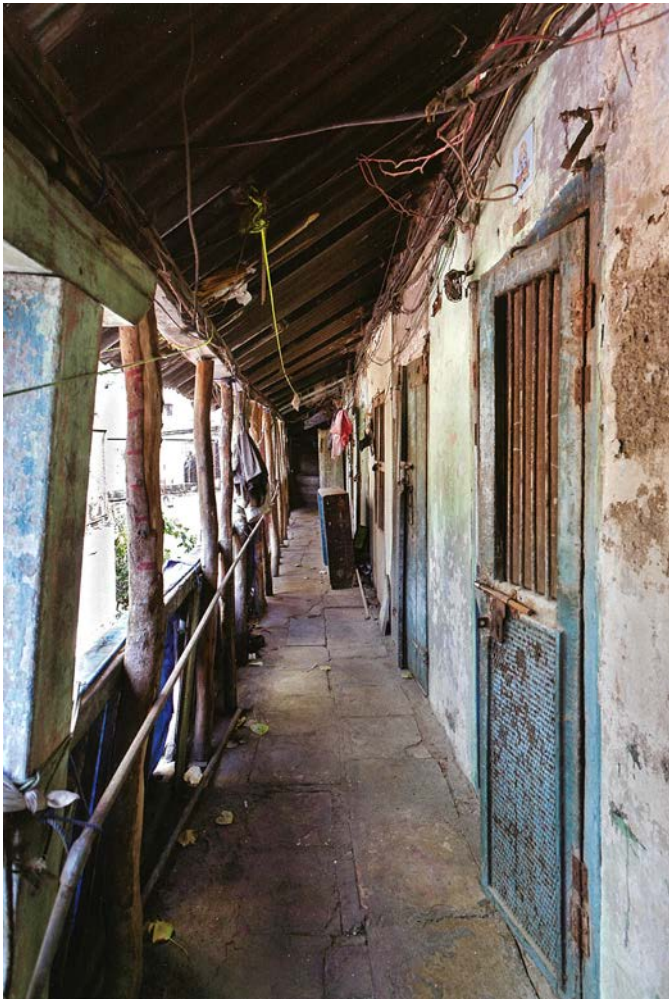
The chawl documented in this study is a part of the Mota Mandir precinct, located on a 6685 sq.m land parcel. The nucleus of this development was a Vaishnavite temple built in 1801 and dedicated to the Hindu deity Krishna and his elder brother Balarama. It was built by the Goswamis-descendants of Vallabhacharya and founders of a staunch Vaishnavite sect.

In addition to the temple, there is a winding public pedestrian street connecting the city fabric through the land. In 1865, housing for the Girnara Brahmins working in the temple was planned and a residential block was wedged between the plot boundary on the southwest and this pathway on the northeast. To satiate the demand for more facilities, there has been intermittent construction of chawls and administrative buildings going on from the 1800s till as recent as 2007.

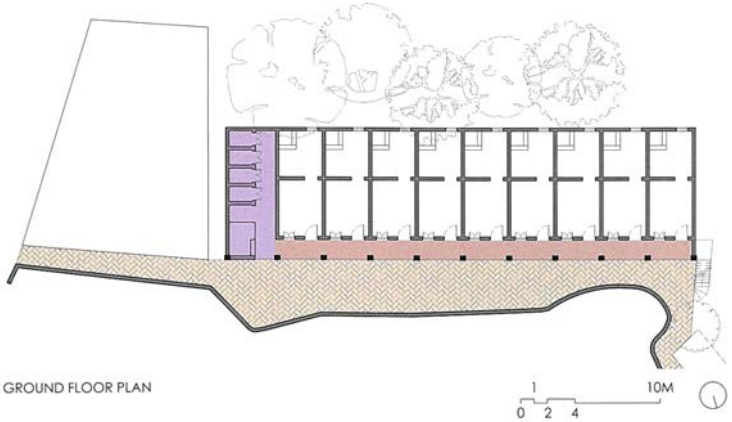
The Mota Mandir precinct was owned by a private trust headed by the Goswamis, who managed the temple until 1958. Following a dispute, the administration of the temple precinct was transferred by a high court order to a public trust. specifically set up for its management. [...]

Mota Mandir is an example reminiscent of medieval towns where despite sporadic development over 200 years, the private temple precinct even today retains a connection to city streets on either side, allowing for an extension of the city fabric. In what is a constant conversation between the public and the private, the architecture of the chawls along with the other buildings negotiates the presence of the public street through elements of staircases and verandahs.

The development has also been impacted by the extant freestanding wall that separates the temple from the other programmes on the site. The temple is situated within the fold of this wall while other structures like residences and commercial units line its periphery across the internal street.



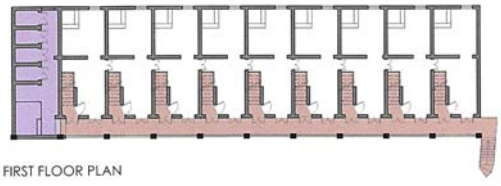
Sameep Padora, *In the name of housing. A study of 11 projects in Mumbai,* Mumbai 2016



GROUND FLOOR PLAN

0 1 2 4 10M

SECOND FLOOR PLAN

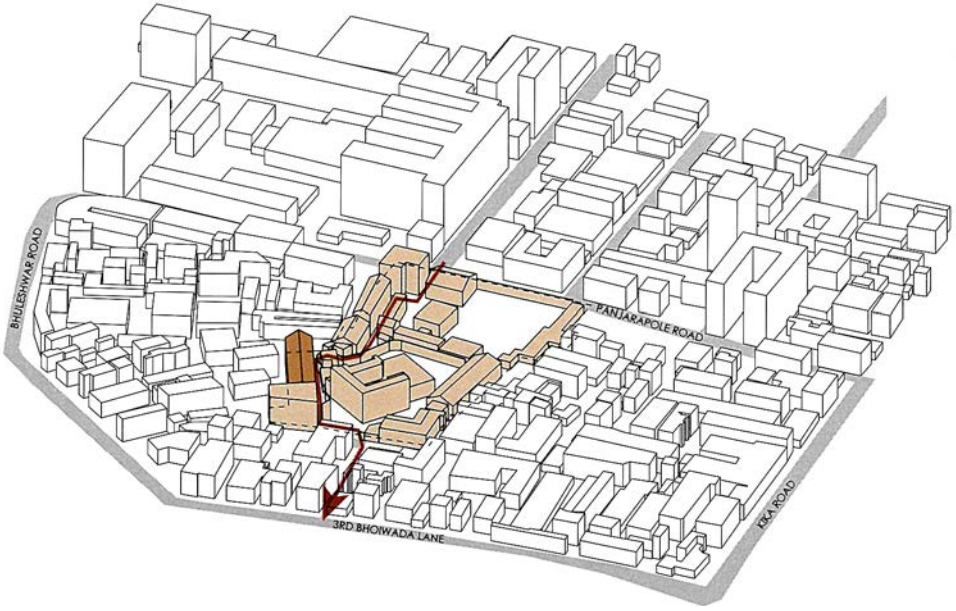


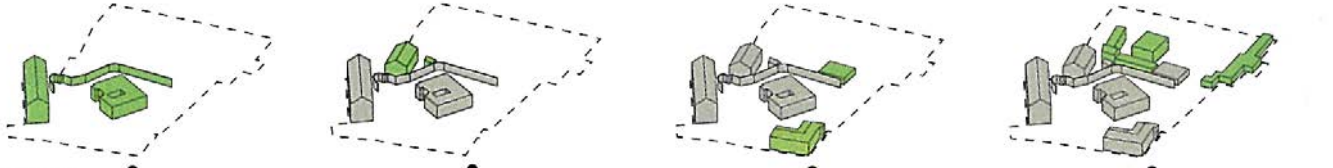
FIRST FLOOR PLAN

OPEN SPACE

SHARED SERVICES

CIRCULATION



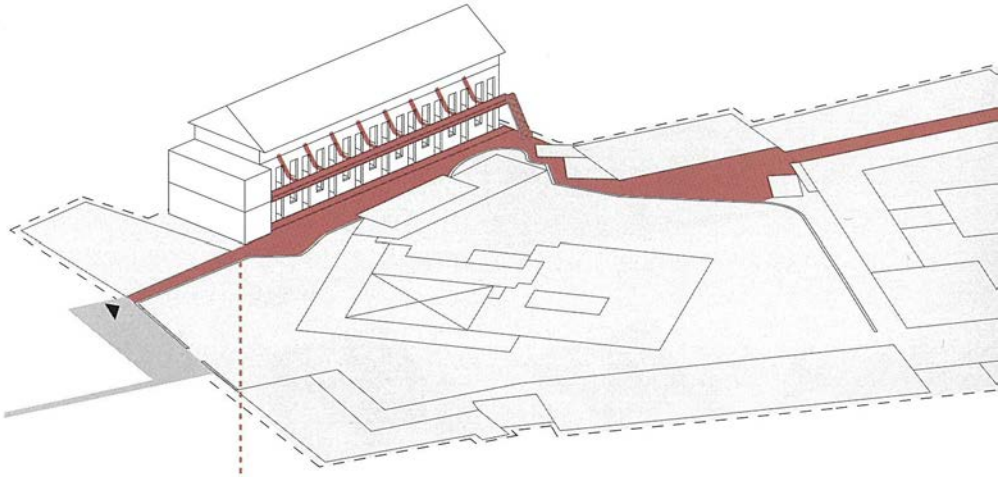


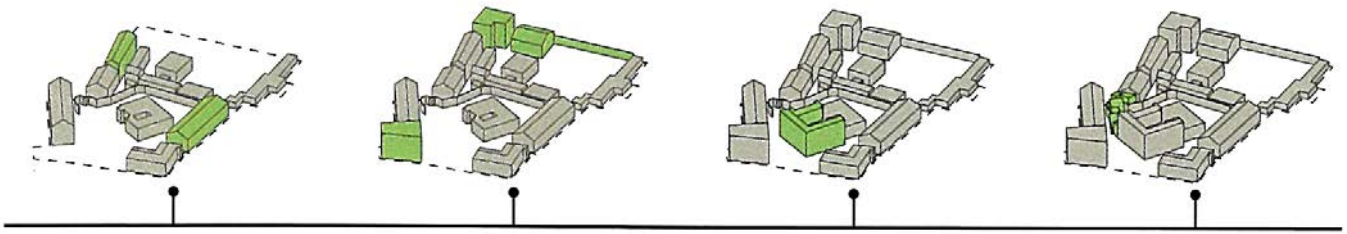
1801-1865
Temple built by Gokulnath Goswami and first chawl built for the Girnara Brahmins working in the temple

1900s
Second chawl, Bhitarya Chawl, built for the Mathura Brahmins

1920s
Smaller temple for the Vaishnav community and office block built for the administrative functions of the temple

1950s
Additional residential and commercial units built and rented out




1960s
Another chawl for rental purposes and an administrative block built
1970s
More residential buildings built and given out on rent
1998-2000
Annex to the temple built
2006/2007
Development of small residential huts and temporary amenities

Swadeshi Market Chawl

-

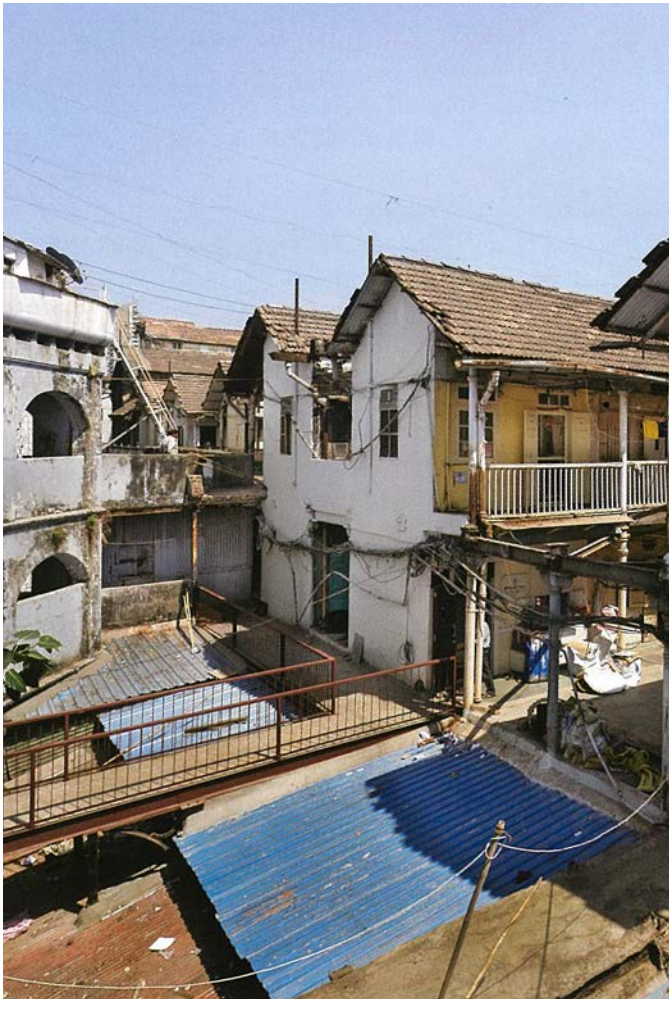
1909

4

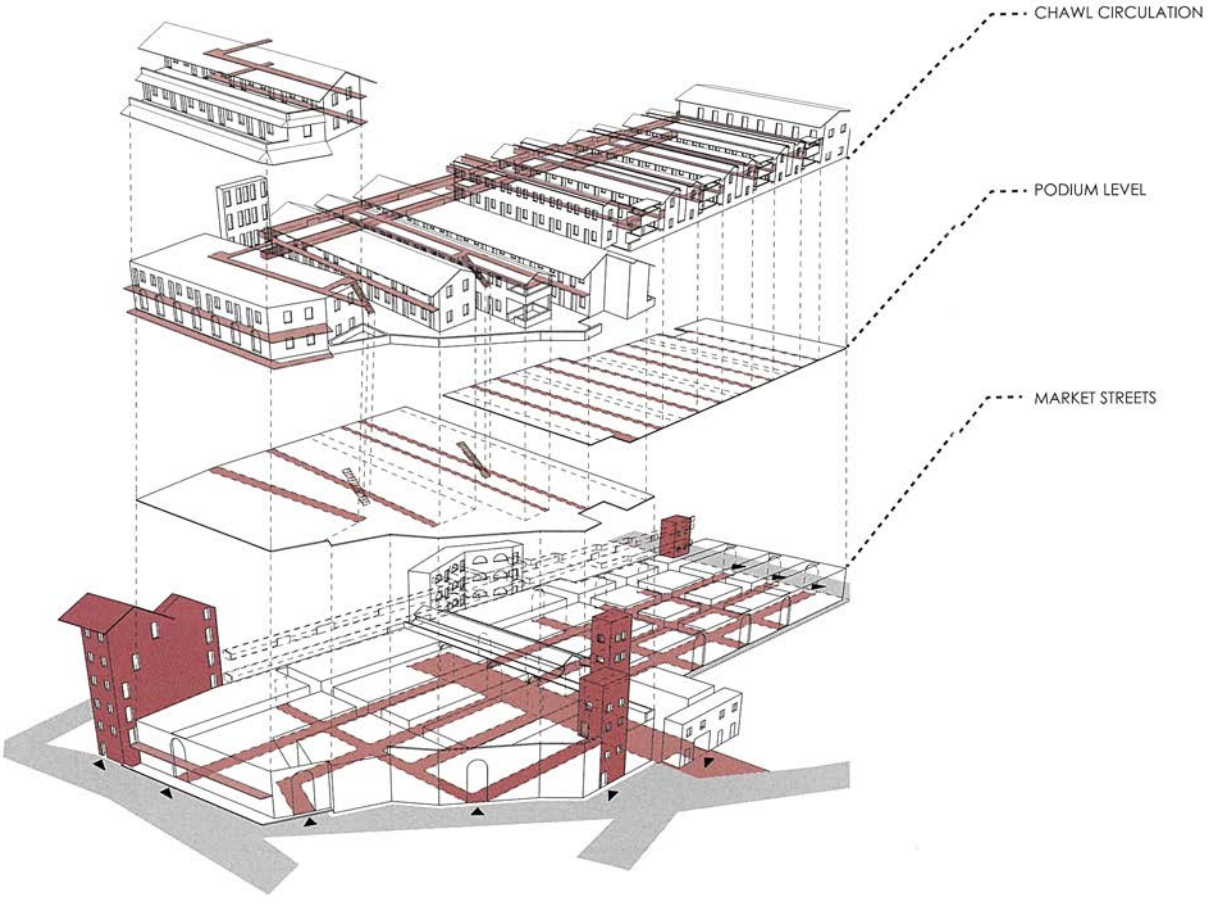
Swadeshi Market Chawl is a monumental construct, a mixed-use building constructed in phases, the first of which started in around 1909 and involved the construction of the ground and first floor cloth trading wholesale market. Subsequent phases involved extensions to the market as well as a podium or upper ground with residential chawls. It is one of the oldest cloth markets in the city and its narrow double height streets are crowded with thousands of shoppers and traders on any given work day.

For all the vitality of the market however, parts of the structure are in a dilapidated condition. One of its century-old staircases, and part of the elevated ground floor slab recently collapsed. Swadeshi, listed as a Grade II A heritage structure, is cessed, and under the jurisdiction of the Maharashtra Housing and Area Development Authority (MHADA). [...]

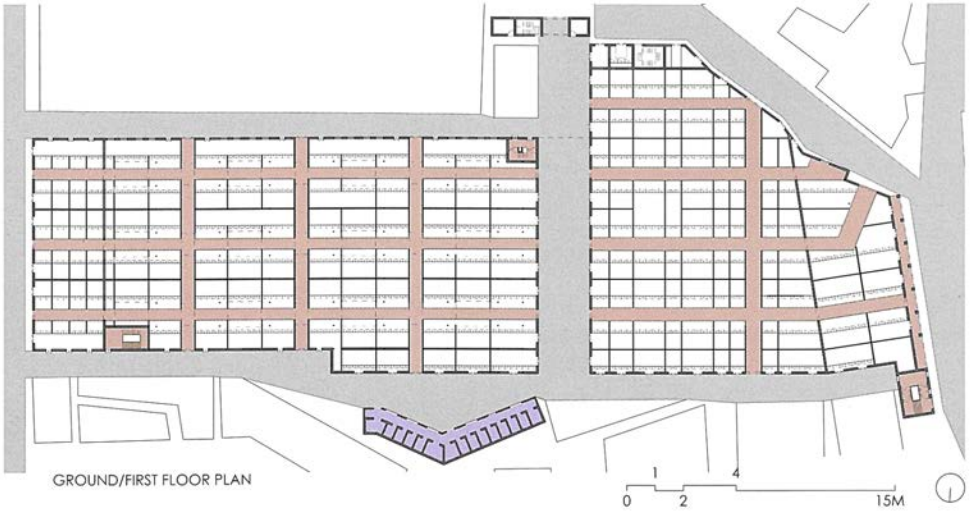
The structure and design of Swadeshi Market Chawl exhibit an articulation of form and space that is inventive and unique, and could be considered as a typological model for mixed-use development in the city. The nature of activity through the building is clearly a result of its built form - at the ground level, the narrow streets and tightly packed shops create a bazaar receding from the activity of the main public streets, while still allowing the city fabric to connect through. Above, the broad courtyards and connecting corridors allow for the potential generation of a neighbourhood social fabric.



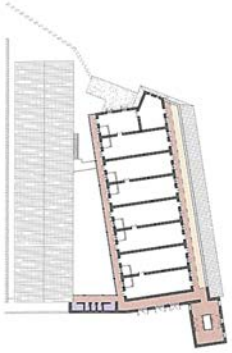
Sameep Padora, *In the name of housing. A study of 11 projects in Mumbai,* Mumbai 2016


CHAWL CIRCULATION
PODIUM LEVEL
MARKET STREETS

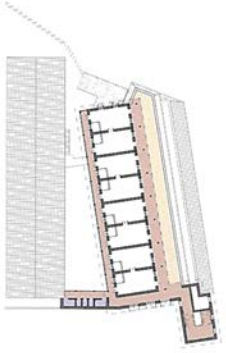
SECOND FLOOR PLAN



GROUND/FIRST FLOOR PLAN



FOURTH FLOOR PLAN

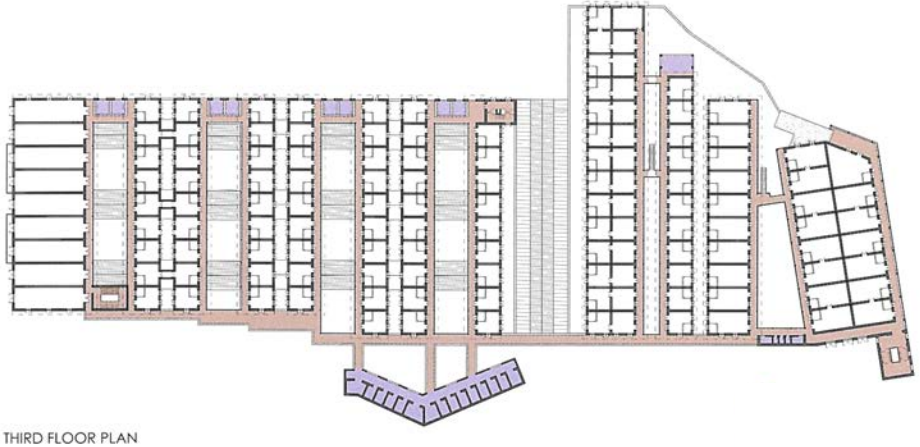


FIFTH FLOOR PLAN

OPEN SPACE

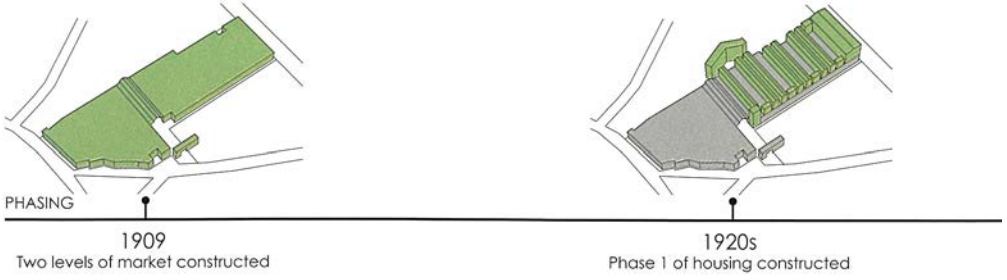
SHARED SERVICES

CIRCULATION

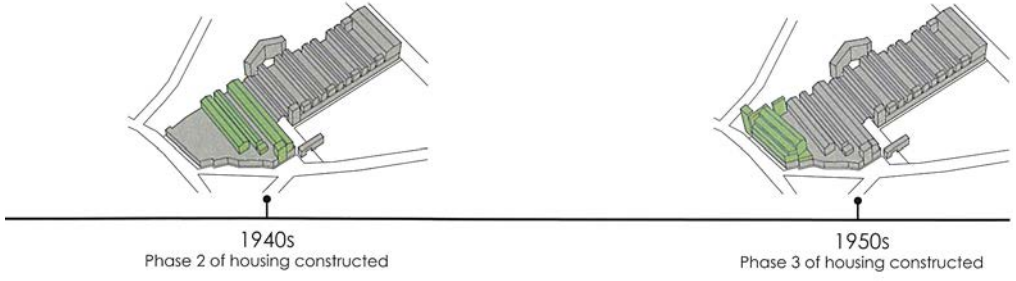


THIRD FLOOR PLAN


KALBADEVI ROAD
OLD HANUMAN LANE
N.J.ACHARYA MARG
DR VIEGAS STREET

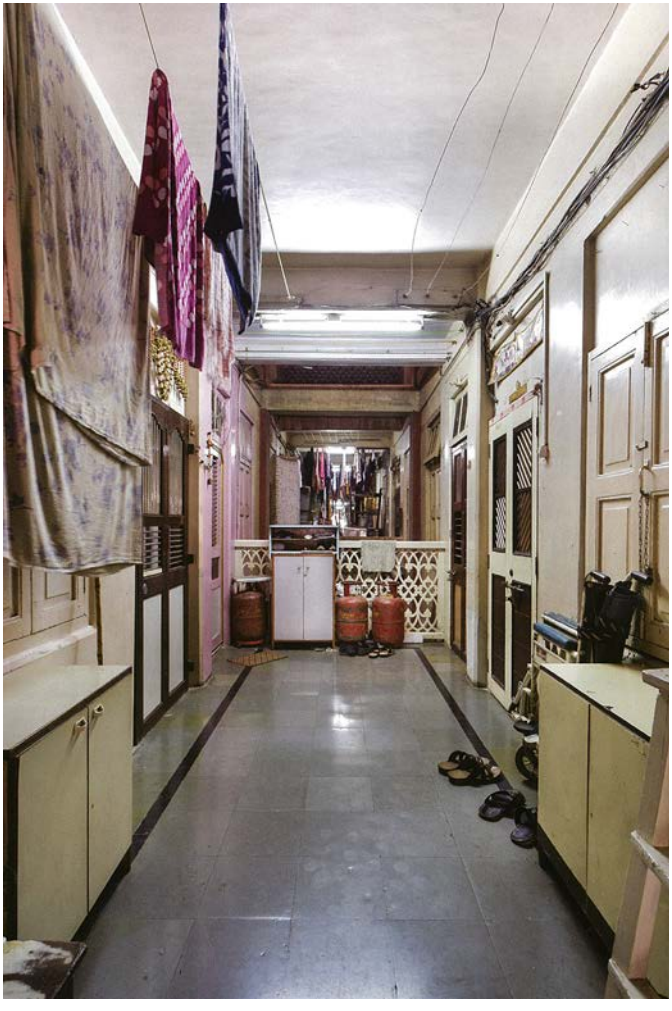

PHASING
1909
Two levels of market constructed
1920s
Phase 1 of housing constructed


RAM H. KATARIA
PRABHUMAN KHIMJI

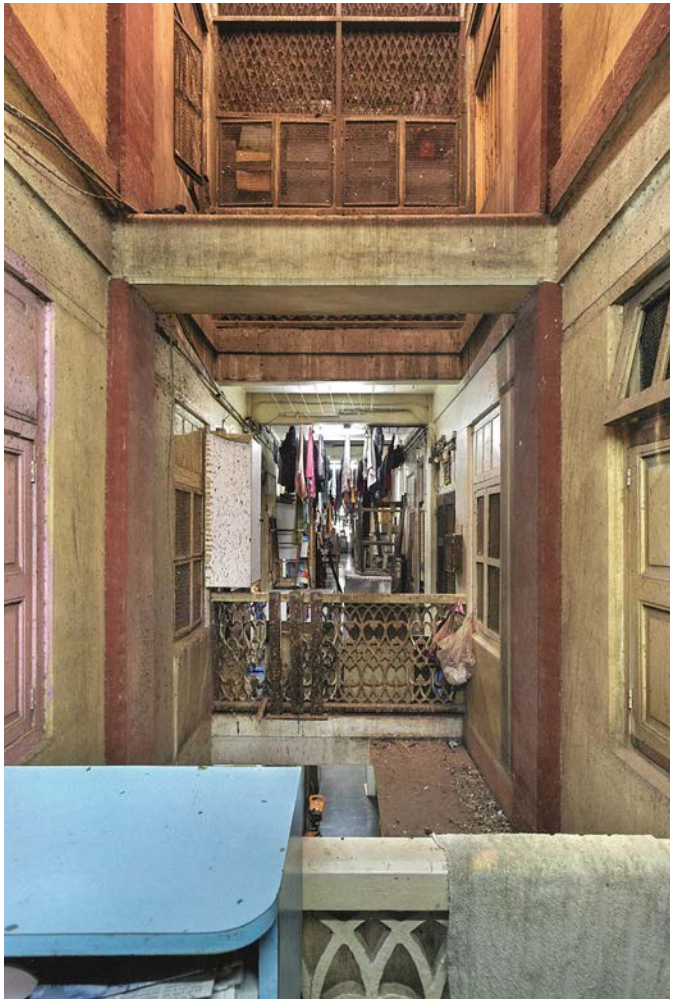

1940s
Phase 2 of housing constructed
1950s
Phase 3 of housing constructed

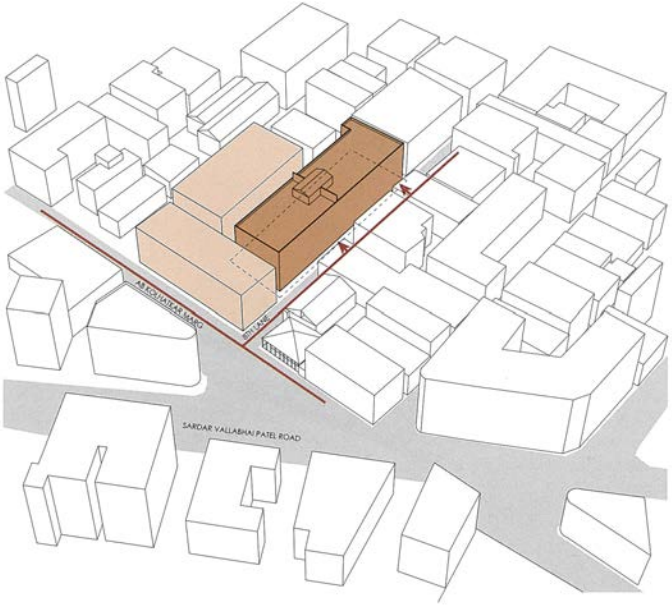
RK Chawl
-
1980

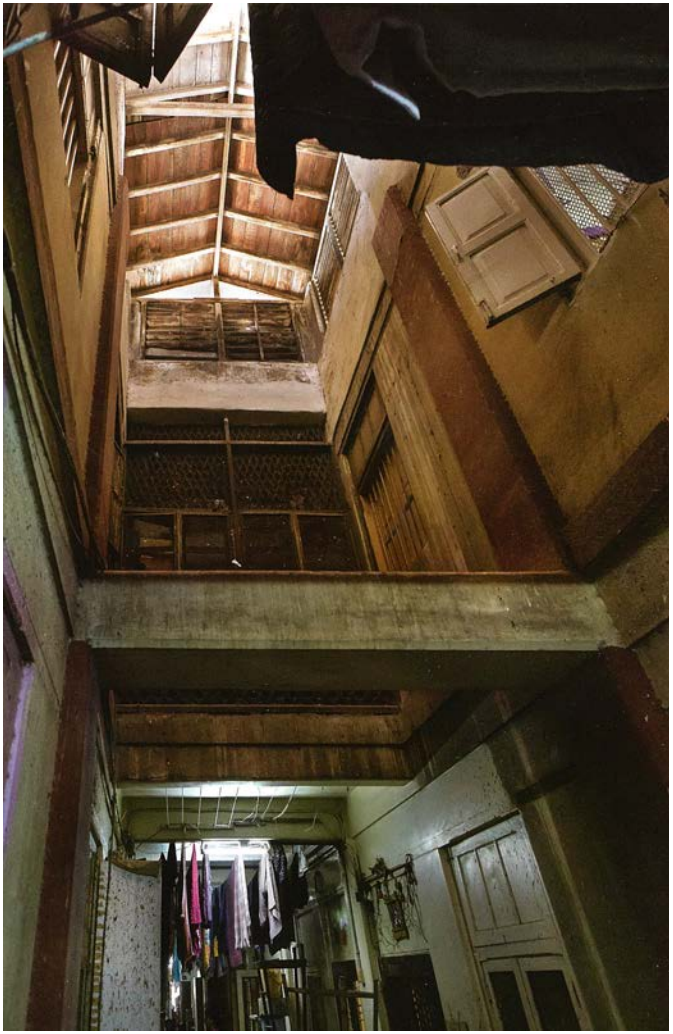
Built in 1980, RK Chawl is a comparatively new addition in chawl typology. In keeping with the times, it has been constructed in RCC (Reinforced Cement Concrete) as opposed to materials like timber and stone, that are seen in older chawls.
The construction of RK Chawl at a time when this typology was in sharp decline is a rare occurrence, but is indicative of the relevance of this housing type within contemporary contexts.
The original inhabitants and owners of the units were from the Gujarati community, and even today are predominantly so.
The chawl building is one of three structures, built by the same developer, and is located in Khetwadi, a predominantly Gujarati neighbourhood. [...]
The building is outwardly a monolithic uniform structure, while internally is variegated. The central circulation spine that would typically have connected all units, is split midway by a light well, which though constrained in size, does provide relief from what might have been an oppressive corridor length. Despite physically dividing the building, it allows residents the opportunity to interact across its volume.
The 2.1 m wide corridor on each of the first three levels is a vital social binder, as residents, being from the same community end up appropriating it as an extension of their interior spaces, effectively transforming circulation space into a giant linear common living room. Also a facilitator of social interaction is the internal window- between private living space and passage - that creates porosity through the width of the building.
On the third floor of the south wing however, housing units become larger, facilitating a mix of economic classes. On this level, the increase in private space seems to have led to an insularity and diminishing social interaction between the residents.

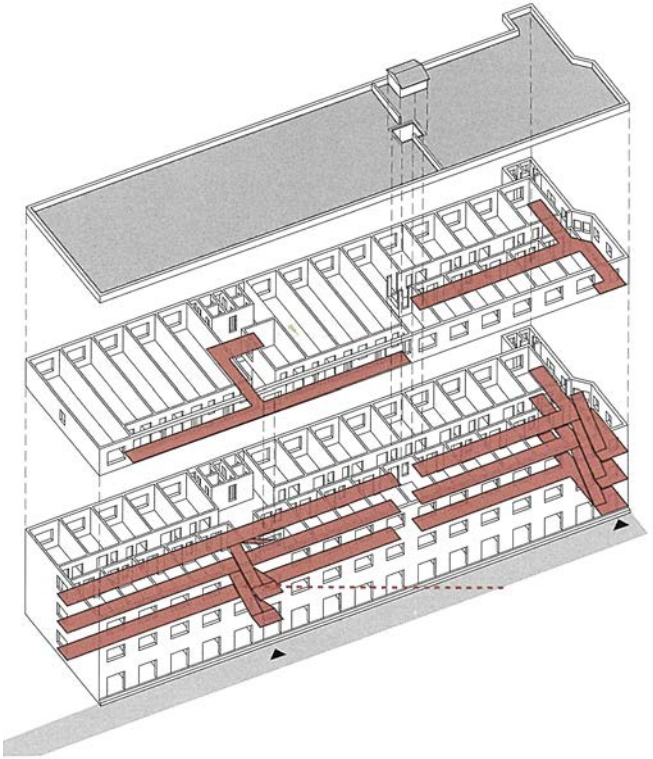


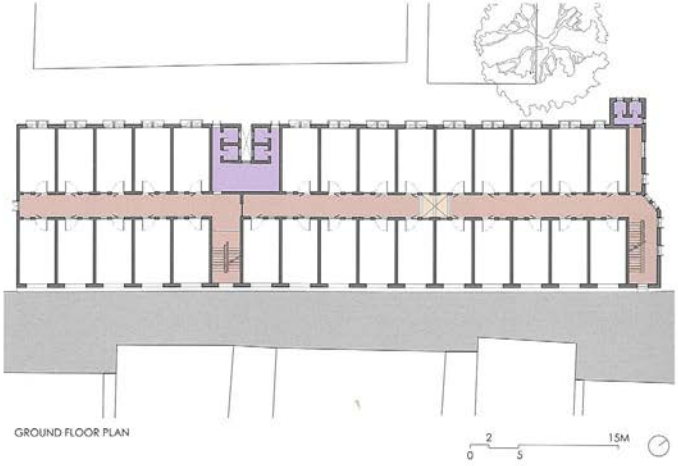
Sameep Padora, *In the name of housing. A study of 11 projects in Mumbai,* Mumbai 2016




SARDAR VALLABHAI PATEL ROAD







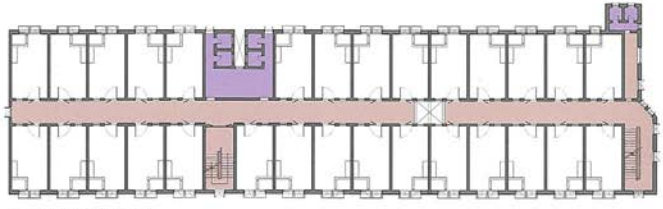
GROUND FLOOR PLAN

0 2 5 15M

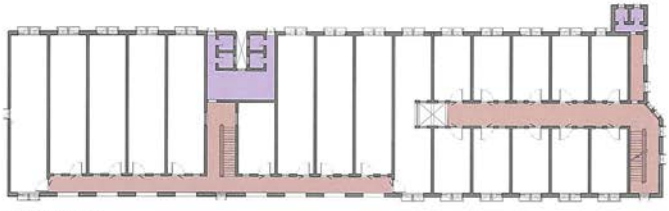
OPEN SPACE

SHARED SERVICES

CIRCULATION



FIRST/SECOND FLOOR PLAN



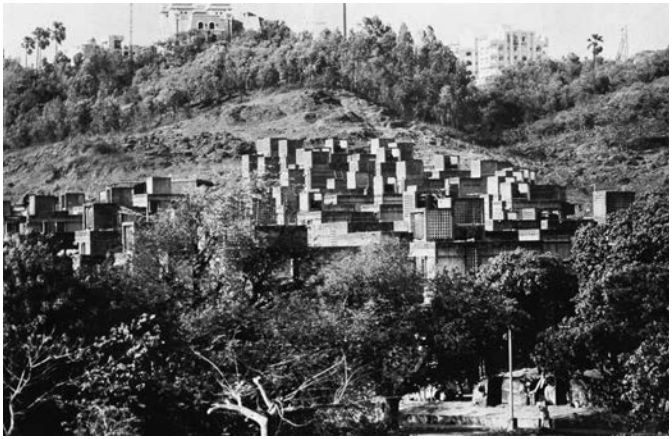
THIRD FLOOR PLAN

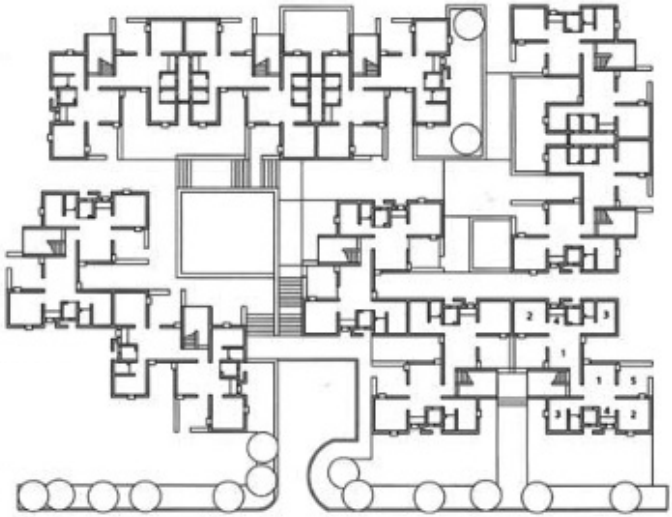
CIDCO Lowcost Housing
Raj Rewal
1993

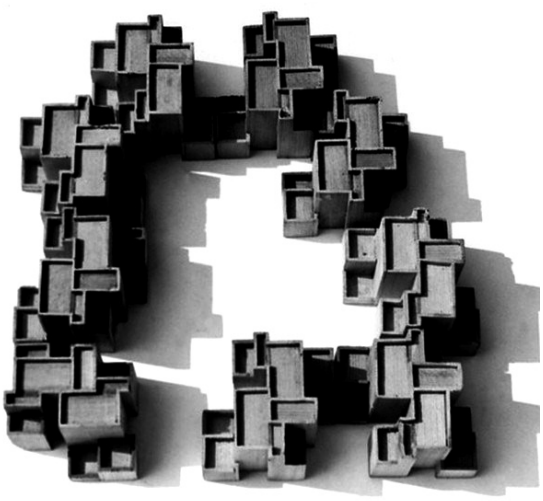
This project was built by City and Industrial Development Corporation (CIDCO), a government entity in a new satellite town , a newly developed territory close to Mumbai to house people from the Low Income Group (LIG – people earning an annual income between USD 3200-6200). The project consists of 1000 units with one-three rooms each (18,25,40, 70 m²). Instead of building monolithic blocks, the project was developed like a dense urban settlement. The dwelling units are fragmented into smaller clusters creating a varied hierarchy of spaces on the sloping site which are interconnected by pedestrian pathways. The units are arranged such to create a network of courtyards and roof terraces fostering community interaction. The Project was designed as a high density settlement to overcome the challenges of the limited land but also to create a high quality urban space derived from a largely naturally developed traditional village (which usually consists of squares, courtyards, terraces and balconies). Increased urban density was seen not as a challenge born out of necessity but a concept essential to create encounters. Being an affordable project, one of the major challenges was to use durable but reasonable priced material. This was achieved through using a combination of concrete cavity blocks, exposed plasterwork, hand-made terracotta tiles and locally available rough granite stones for the base which can endure the hard Indian Monsoon. The creation of the traditional narrow street, linking all housing units, provides intimate encounters between people and a sense of belonging to the neighborhood square. The interlocking courtyards accommodate different functions and create a micro climate within the site.

Roads needed to be moved to the periphery to allow footpath connections within the development. The site can be accessed from all sides from the outside, and people can easily pass through the various building groups increasing interaction. Thus, the planning of the housing project accommodated high level of social interaction in everyday life where the residents are in intensive contact with the other occupants throughout the day and life takes place to a large extent on the street. [...]

www.msaudcolumbia.org







Town Hall
Thomas Cowper
1820-1833

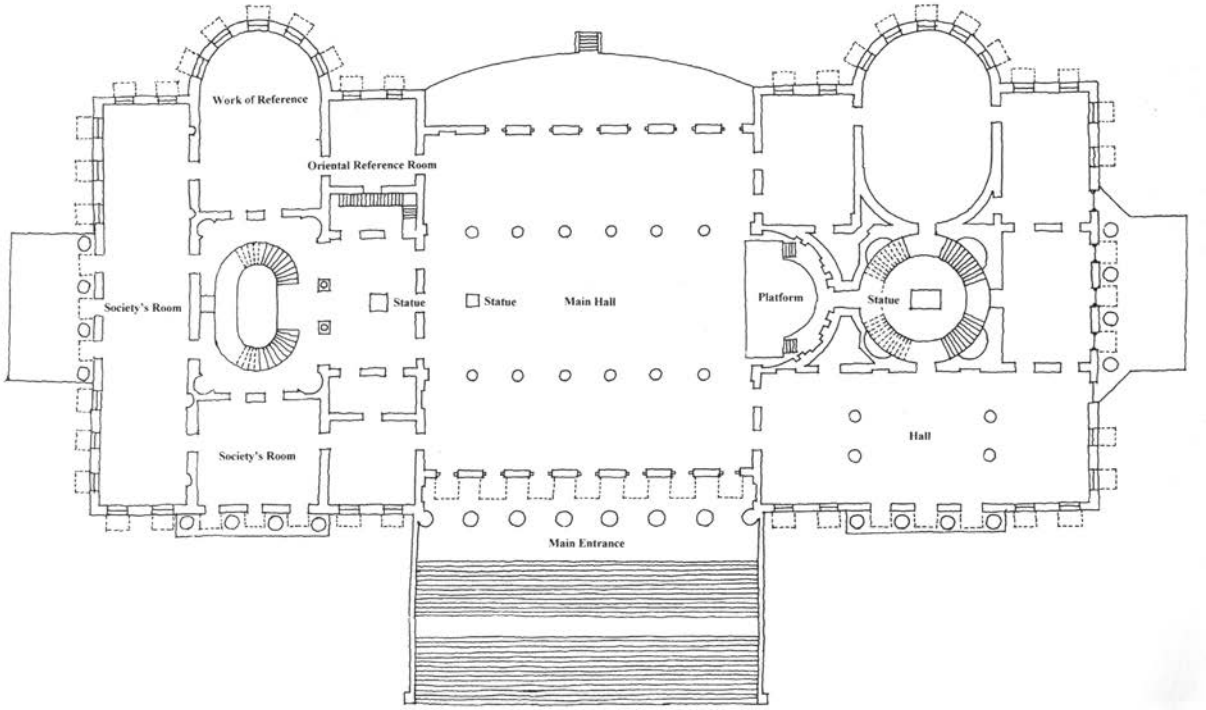
One of the great surprises for every visitor to the predominantly Neo-Gothic centre of Bombay is the Town Hall, which was created a few years after Garstin's Town Hall for Calcutta. It dates from the first half of the 19th century, when the Gothic Revival had yet to be chosen by those who ran the city as the desirable style for public buildings.

,This was the masterpiece of an otherwise unknown officer of the Bombay Engineers, Colonel Thomas Cowper, and was finished in 1833 in the Neo-Classical style, purer than the Palladian, which was then fashionable in England. It was built to house the library of the Asiatic Society, as well as fulfil its municipal functions, and it had a less mercantile and aldermanic, more artistic feel to it than Calcutta's. Its site was the best in the city, opposite the cathedral on the green which formed the heart of the old fort area, and it lay broad and low above a very steep, very wide monumental staircase, flanked by iron railings. It had a portico with six fluted Doric pillars beneath a wide pediment, and its facade was given a curious tropical allure by a series of sharply projecting wooden hoods, deeply shading its doors and windows. It looked fine. Everybody liked it, even in later years the novelist Aldous Huxley, who detested everything else in Bombay.

The three-part ground plan of the Town Hall is of unexpected simplicity: the central part consists solely of a large and very tall three-aisle hall with Corinthian columns, set upon a raised platform or stage. To either side of the main hall are working and assembly rooms on two storeys, grouped symmetrically around a central stairwell. The elevation of the Town Hall is also distinguished by its simplicity. The central part consists of a broad portico. The two wings are each arranged symmetrically and axially. On the facades, the symmetrical axes are delineated by prominently placed columns.

[...]

Andreas Volwahsen, *Splendours of Imperial India. British Architecture in the 18th and 19th Centuries*, München 2004


Work of Reference
Oriental Reference Room
Society's Room
Statue
Statue
Main Hall
Platform
Statue
Hall
Society's Room
Main Entrance

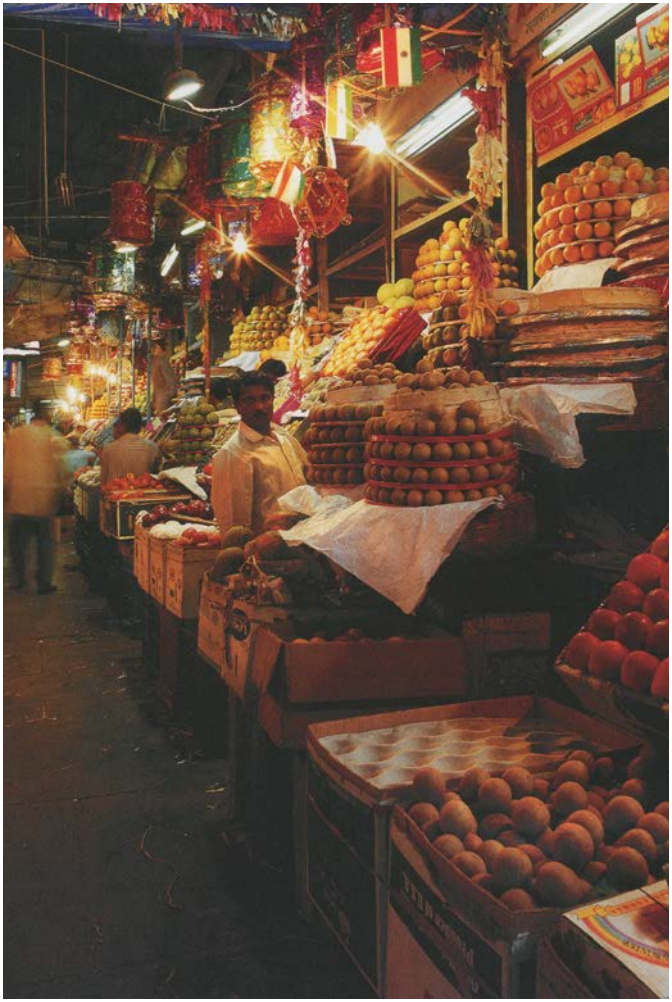
Arthur Crawford Markets
William Emerson
1867

William Emerson, who later became famous for designing the Victoria Memorial in Calcutta, arrived in Bombay at the age of twenty-three. He was a colleague of architect William Burges, with whom he collaborated on the Bombay School of Art in the Gothic Revival style that was widespread in the city. The project never left the drawing board because of a lack of funds, but Emerson stayed in Bombay and obtained the commission to build a large market building for the city.

Arthur Crawford Markets is composed of two long sections of buildings for market stalls. And where the lines of buildings, extending in different directions, meet at a street corner, Emerson built - as an entrance and central point - a small, three-storey building in the style of 12th-century Gothic market houses.

In the rapidly growing city of Bombay, the traditional pedlars and small local markets had been unable to handle the increased demand for fresh meat products and vegetables. The building of the Crawford Markets was an important step towards providing good produce. The new market halls were well received, and because of their high turnover are still considered today, alongside the supermarkets and specialist shops of the inner city, as a particularly attractive location for retail traders.

‚A visit to the markets is one of the most compelling experiences in India. The noise is deafening, the crowd suffocating and the senses are assaulted by such an array of sights and smells that the unprepared visitor fresh from the order and calm of a European city emerges reeling. The main halls are carried on iron columns with corrugated-iron roofs designed by Mr Russel-Aiken and the walls are lined with elegant iron lamp brackets cast in the form of intertwined reptiles. Beneath these roofs one can obtain almost anything - brilliant fresh flowers, betel nuts, oranges, grapes, bananas, onions, mangoes, cat fish, sword fish, wildfowl, ducks, caged birds, all the exotic produce of the east concentrated into one, enormous pageant.` [...]



Andreas Volwahsen, *Splendours of Imperial India. British Architecture in the 18th and 19th Centuries*, München 2004

Victoria Terminus
Frederick William Stevens
1878-1887

The design of his Royal Alfred Sailor's Home brought fame to Stevens, a young architect in the service of the state in Bombay. The Great Indian Peninsular Railway Co. therefore borrowed him from the state administrative system and commissioned him to design the largest railway station in India. In 1878 he completed his initial drafts and travelled to Europe for ten months to prepare for this great task. Here he collected the plans for all the important railway stations and many other public buildings that were in the process of being completed. Stevens was particularly impressed by Gilbert Scott's unrealised design for the Houses of Parliament in Berlin, a Gothic Revival office structure with a central dome. After his return to India he completed the final version of his station in imitation of this model. Although it is always being compared to St. Pancras Station in London, it undoubtedly surpasses the latter in the severity of its design and the splendour of its execution. [...]

The careful execution of building details, the multiplicity of figured and ornamental decoration and the ornate wrought-iron railings are the result of the collaboration between Stevens and the Bombay School of Art. Sculptor Thomas Earp was commissioned to design the statue of Progress crowning the cupola, the Imperial Lion and Indian Tiger on either side of the entrance to the courtyard and the portrait medallions on the facade. In the main hall, a deep blue, starry sky extends over the Gothic ribbed vault, which is supported by grotesque animals from the Indian and English worlds of legend. The wealth of high-quality decoration in the main hall provides further evidence of the expertise and care of Victorian architects and artists, combined with their daring eclecticism and use of new construction methods. [...]

If, in the face of justified and unjustified criticism, the Victoria Terminus still shines today in its original splendour, this is certainly thanks to the Working Committee on Urban Conservation, founded in 1990. [...]

Andreas Volwahsen, *Splendours of Imperial India. British Architecture in the 18th and 19th Centuries*, München 2004

Great Indian Peninsular Railway Terminal Buildings, Bombay.—Plan.

GREAT INDIAN PENINSULAR RAILWAY TERMINAL BUILDINGS, BOMBAY.

WE give this week the principal elevation and views of different portions of this building, one of the largest which has been erected in India from the designs of an English architect.

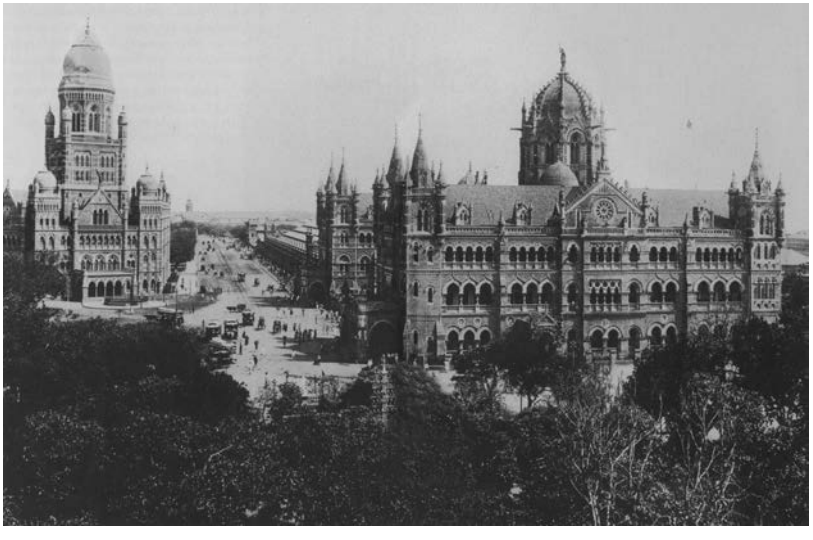
In the *Builder* for October 23, 1886, we gave a view of the large Waiting Hall, and of the entrance-corridor to it, and some illustrations of the sculptural decorations; and in the same number we gave a pretty long description of the building and the materials employed, from information furnished by the architect, Mr. F. W. Stevens, from whose designs and under whose supervision the buildings were commenced in 1879.

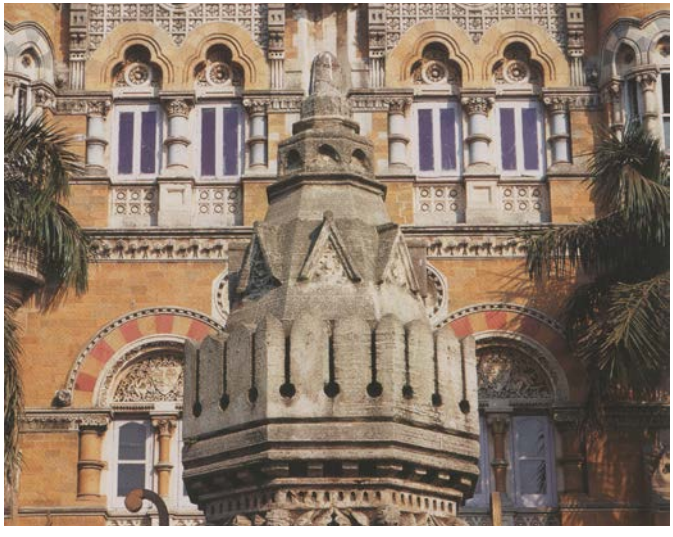
We have little to add to the description given along with our former illustrations. The figure sculpture has been executed in London by Messrs. Earp & Son, and includes a colossal figure of "Progress" on the summit of the dome (seen in one of the views). The large gables on the south and west sides are surmounted by groups on pedestals representing Engineering, Commerce, and Agriculture, and the statue of the Queen-Empress has been placed under the canopy below the large clock of the central gable. A separate illustration of this statue will be found in the *Builder* for Sept. 10 of last year, page 362; and in a lithograph in the same number will be found reproductions, from photographs, of the figure of "Progress," and the other allegorical sculpture above referred to. In the *Builder* for October 23, 1886, we gave also a lithograph of some of the decorative carved detail, executed by native carvers from models supplied and designed by Mr. Gomez and the students of the Bombay School of Art, and which are among the best portions of the decorative work.

The buildings are faced with a light buff-coloured Coorla stone, with dressings, cornices, mouldings, &c., in Porebunder and Seoni stones.

The total cost of the whole of the buildings was about twenty-seven lacs of rupees. All the work was entirely executed by native labour, entirely to the satisfaction, we understand, of the architect. For further particulars we must refer the reader back to the *Builder* of Oct. 23, 1886, page 608.

We have devoted several pages of illustrations to this building, as it is one of the largest and most important modern buildings erected under European influence in the Indian Empire, and we have thought it well to give our readers the opportunity to form an opinion, as far as may be done from illustrations, as to the architectural merits of a building which has, apparently, received great admiration in the regions of Anglo-Indian criticism.





Taj Mahal Hotel
Sitaram Khanderao Vaidya und D.N. Mirza
1904

The sea journey from Europe to India was full of danger for the British adventurers, who were as a rule still very young. Many an Indiaman sank in a storm rounding the Cape of Good Hope, and in the Arabian Sea merciless bands of pirates lay in wait for rich booty. Following a successful passage, voyagers would experience an almost mystical feeling of hope and elation on entering the natural and safe harbour of Bombay.

But when the exhausted adventurer, often already plagued by tropical illnesses, stepped onto the endlessly fertile hill country of Bombay, he was overcome with greed for the fabled riches of the Orient. [...]

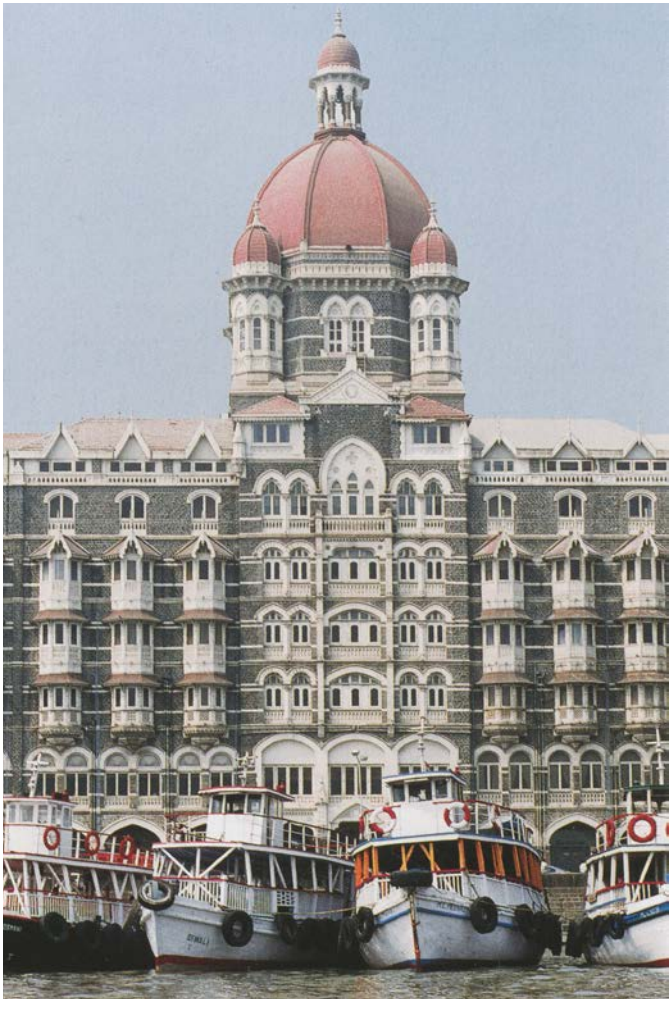
The harsh colonial climate did not prevent immigrant Parsi families from seeking their fortunes here. And when one of the most successful of these, Jamshetji Nusserwanji Tata, was shown the door at a Bombay hotel reserved for the British clientele, he immediately built the most magnificent hotel in India on the Apollo Reclamation and called it the Taj Mahal.

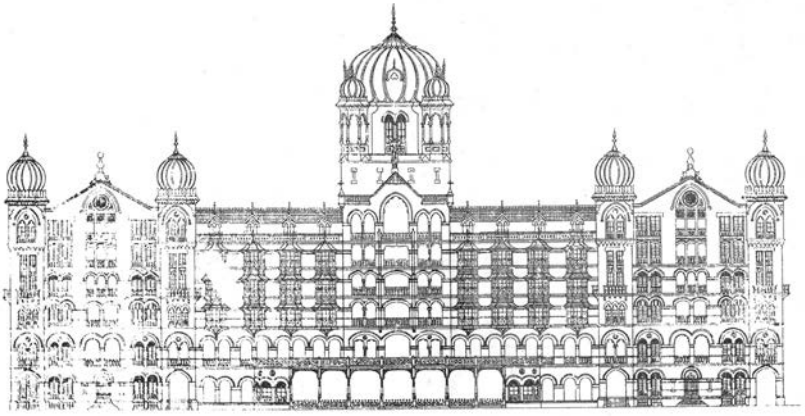
Because of the prominent situation of the Taj Mahal Hotel, right on the promenade of the Apollo Bunder, it was decided to locate the drive and entrance to the rear of the building to ensure that the opulent rooms and suites had the best views possible.

Stylistically, the edifice is hard to classify because in the eclecticism of the late 19th and early 20th century, Indian and European, sacred and secular building forms were seamlessly blended. Allusions to the architecture of past centuries and to that of Switzerland, Arabia and Gujarat offered the prospect of colonial riches for the exhausted sea traveller, while promising him entry into the imperial elite. [...]

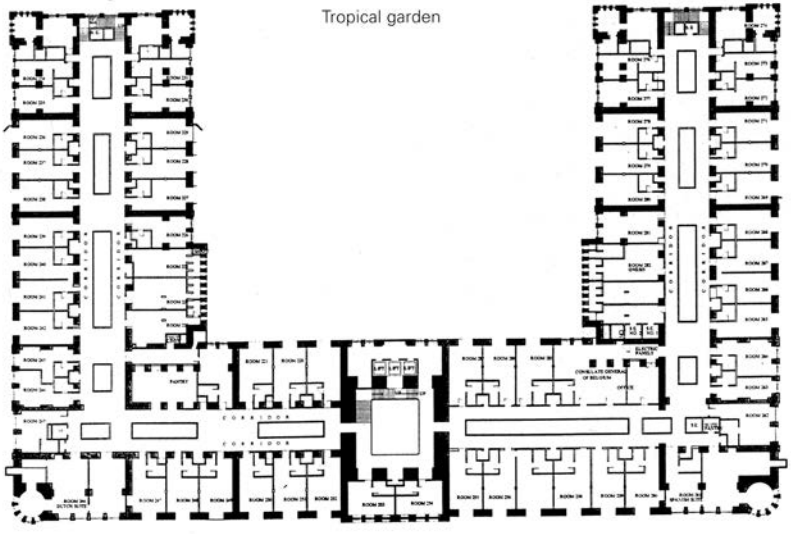
Again and again, travellers to India have tried to describe the unique charm of the Taj Mahal Hotel. [...] ,The gigantic Taj combines the style of the South Kensington History Museum with that of an Indian pavilion at an International Exhibition.` Ironically, the extraordinary and luxurious hotel complex has become a favourite location for Britons nostalgic for the days of the Empire. What has been forgotten is that the hotel was actually built in protest against racial discrimination in British India.

Andreas Volwahsen, *Splendours of Imperial India. British Architecture in the 18th and 19th Centuries*, München 2004





Tropical garden

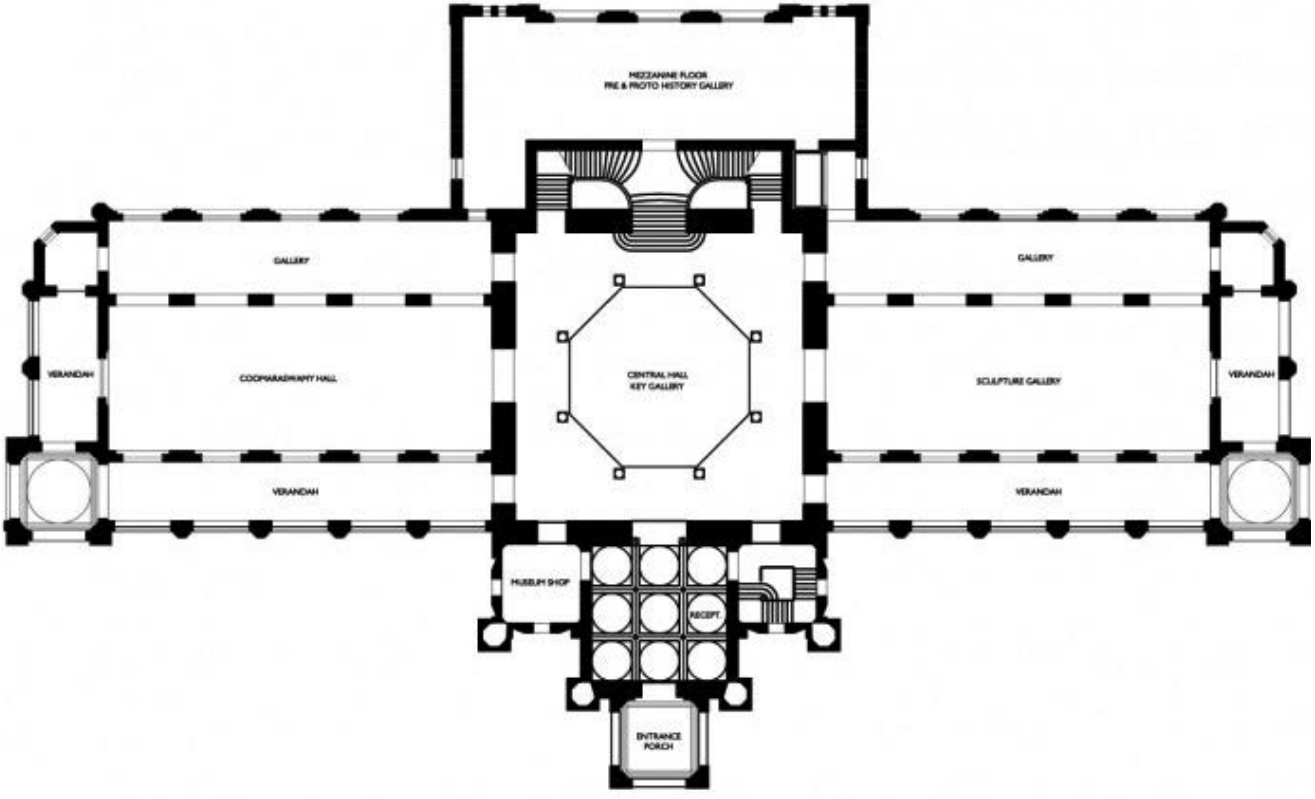


Ocean side

Prince of Wales Museum
George Wittet
1905

When the Prince of Wales, later King George V, visited Bombay in 1905, he laid the foundation stone for a museum in the Indo-Saracenic style. The architect, George Wittet, did not rely on models from North Indian Mughal architecture. Rather, he borrowed from the architecture of the South Indian sultanates of the past. The museum resembles in particular the monumental tomb of Gol Gumbaz in Bijapur, built for Sultan Mohammed Adil Shah. This structure attracted attention at the time, partly because it was crowned by the third largest dome in the world. The project, however, was so ambitious that it was never completed. We do not know why George Wittet chose a tomb as a model for a museum building.

Andreas Volwahsen, *Splendours of Imperial India. British Architecture in the 18th and 19th Centuries*, München 2004

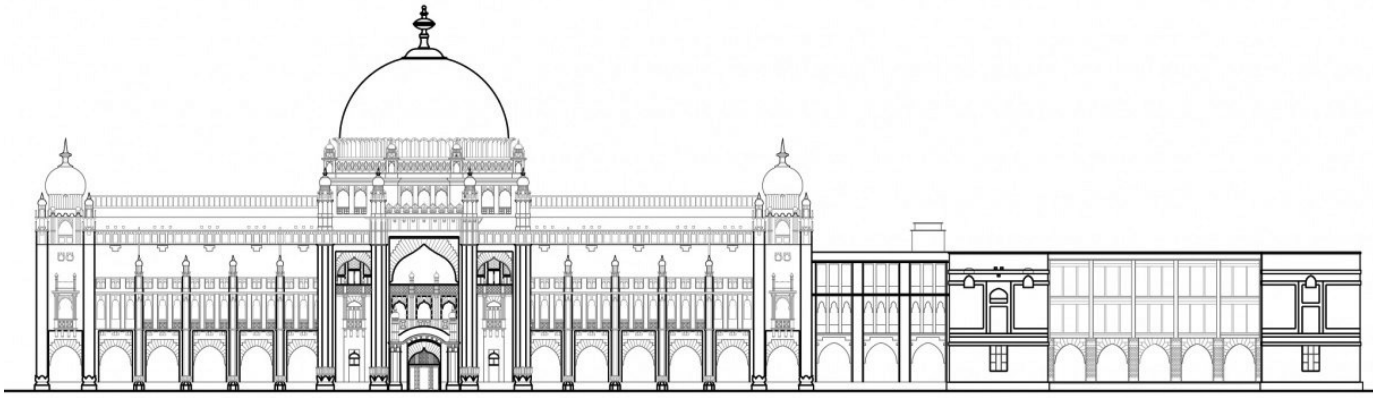

MEZZANINE FLOOR
PRE & PROTO HISTORY GALLERY
GALLERY
GALLERY
VERANDAH
COOMARASWAMY HALL
CENTRAL HALL
KEY GALLERY
SCULPTURE GALLERY
VERANDAH
VERANDAH
VERANDAH
MUSEUM SHOP
RECEPT.
ENTRANCE
PORCH

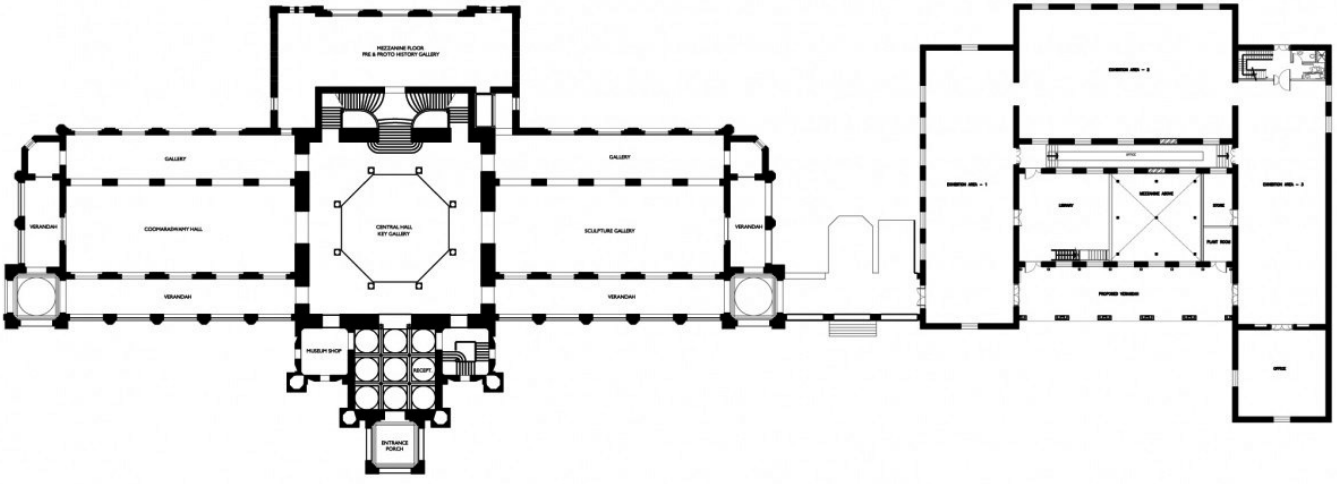
Prince of Wales Museum Extension
Rahul Mehrotra
2001

Located within the historic Fort Precinct, the Prince of Wales Museum is one of the finest architectural landmarks of the city and a Grade I heritage building as per the Heritage Regulations of Greater Bombay, 1995. Designed by George Wittet, the architectural vocabulary of the structure built in grey basalt and kurla stone, is strongly representative of the Indo Saracenic genre. The main elevation is crowned by a dome that, in its profile and sculpture detailing, is reminiscent of and inspired by the sculptural forms of Bijapur's Gol Gumbaz.

In 1997, the Director and Trustees of the museum took a decision to reconfigure the eastern extension wing in order to optimize the spatial usage of the building. It was felt that the extension needed to be better integrated with the rest of the gallery spaces and that a more public usage of this space would assist in making this wing more popular with the visitors. It was also decided to incorporate an additional gallery space within this structure and make the internal circulation more flexible, in order to allow for greater movement between the new exhibition areas.

www.rmaarchitects.com




MEZZANINE FLOOR
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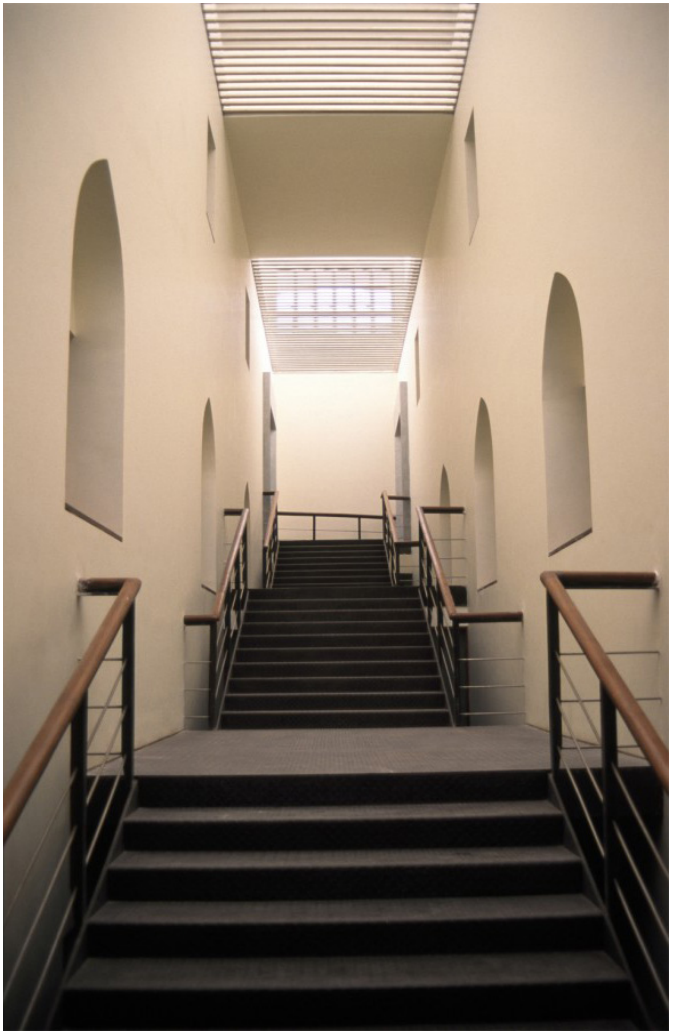
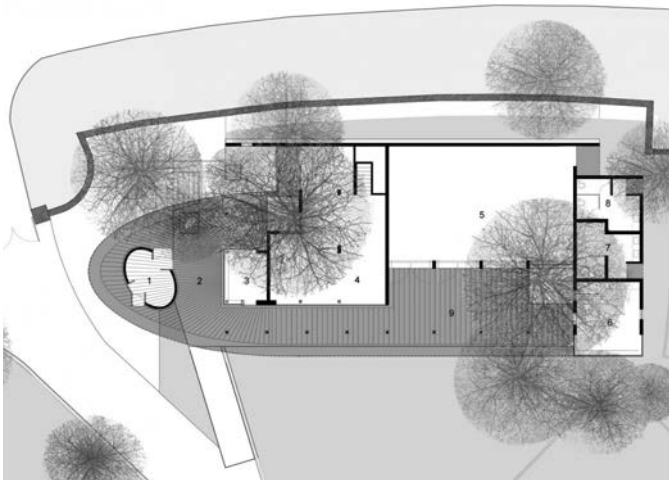


Prince of Wales Museum Visitor Centre
Rahul Mehrotra
2011

The visitor centre is located at the entrance of the Chhatrapati Shivaji Maharaj Vastu Sangrahalaya (CSMVS), formerly the Prince of Wales Museum, a Grade I heritage structure in Mumbai. The contemporary structure expands upon the footprint of a previously existing multipurpose hall, and is a part of an expansion plan for this prestigious urban landmark. The centre fulfills various programmatic functions, ranging from the integration of baggage collection and storage, to ticketing and security, as well as a museum shop, two hundred seat auditorium and rest rooms.

A lightweight, stainless steel clad elliptical roof creates a covered verandah for circulation, integrating disparate visitor programs into a consolidated and modest, yet contemporary form. Glass and metal surfaces exist as a visual counterpoint to stout basalt stone of local heritage structures. Reflective material planes create a paradoxical visual poetry in which archaic forms of the adjacent museum are recast and distorted in a new perspective. The predefined footprint is organically punctured by existing trees that project through openings in the roof, yielding localized deviations in the otherwise low-key scale spaces. Integration of natural textures with modern means and materials further expands the defining narrative of the centre, that of a culturally meaningful intervention within a monumental historic context.

www.rmaarchitects.com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Royal Opera House
Maurice Bandmann und Jehangir Framji Karaka
1908-1916

The Royal Opera House, Mumbai is widely touted as the city's Cultural Crown Jewel and India's only surviving Opera House. The original idea for the space was conceived of in 1908 by Maurice Bandmann, a famous entertainer from Calcutta, and Jehangir Framji Karaka, who headed a coal brokers' firm.

This Baroque edifice was inaugurated in 1911 by King George V, and eventually completed in 1916. The design incorporated a blend of European and Indian detailing. Twenty-six rows of boxes behind the stalls were put up for the best view of the stage. The ceiling was constructed to enable even those in the gallery to hear every word uttered by the performers.

By 1917, the Opera House, like many other theatres, became in part a cinema. In 1925 it ceased to be a dramatic theatre when British Pathe rented it for screening their films. Among leading musicians and actors who performed at the theatre were Bal Gandharva, Krishna Master, Bapu Pendharkar, Master Dinanath, Jyotsna Bhole, Londhe, Patwardhan buwa, and Prithviraj Kapoor.

In 1935 Ideal Pictures Ltd. acquired the theatre and completely renovated it in the following year, including new flooring, tiles, doors, window frames and coloured cements. By 1980, video films adversely impacted the popularity of cinema and a number of theatres were closed by the 1990s.

The Maharaja of Gondal, Shri Vikramsinhji, bought the Opera House in 1952. His son, Shri Jyotendrasinhji, commissioned its restoration in 2010 under the leadership of conservation architect, Abha Narain Lambah. The Royal Opera House Mumbai was included on the 2012 World Monuments Watch to raise awareness about its history and significance, and support preservation efforts.

www.royaloperahouse.in

Gateway of India
George Wittet
1914-1924

Queen Victoria never visited India. Many Indians in the 19th century regretted this, not least because her Indian subjects had - more or less - come to terms with the fact that since 1858 there had been a British Empire in India. The first British monarch and Emperor of India to visit the country in person was George V in 1911, accompanied by Queen Mary. The British Viceroy provided an appropriate reception for his guests, having a temporary reception pavilion built of white plaster at the Apollo Bunder [upper right corner]. This was replaced three years later by the building of the Gateway of India. George Wittet, Consulting Architect to the Government of Bombay, received the commission to build this triumphal arch in the Indo-Saracenic style at the landing-point for the royal couple. Wittet was a recognized expert on indigenous Indian architecture.

The design of the commemorative portal was in the style of 16th-century Gujarati architecture. The main structure was built in yellow basalt stone from the Kharodi quarries in the Thana district. The domes and galleries, however, were made of reinforced concrete, the central dome being 48 feet in diameter and 83 feet at its maximum height. The Gateway of India, which further intensified the ‚grand' image for the visitors arriving by sea, was formally opened by the then Viceroy, the Earl of Reading, on 4 December, 1924.

The Gateway of India admittedly owes its fame less to the ceremonial occasion for its construction, than to its role in the last act of the imperial drama. It was dedicated to the first arrival of a British monarch in India in 1911, but will go down in history as the location for the farewell of the last British regiment to leave India in 1948.

‚Today it looks rather isolated and it remains unaligned with the axis of the former Yacht Club, but this was intentional for the arch was only part of a wider scheme which Wittet intended for the area, but which never came to fruition. Since Independence this dislocation has been atoned for by the pleasant garden around the site, and the casual visitor, rummaging through the market stalls, pays little heed to such architectural improprieties - except perhaps the Englishman. [...]

Andreas Volwahsen, *Splendours of Imperial India. British Architecture in the 18th and 19th Centuries*, München 2004

Liberty Cinema
Ridley Abbott
1947

Built by Habib Hoosein in the year of India's independence, it required no imagination to name "the showplace of the nation" – Liberty Cinema. The 1200 seater single screen theatre was designed by English architect Ridley Abbott in the classic Art Deco style prevalent at the time. Unfortunately, Abbott and his wife were killed in an aircrash when the building had reached just the first floor level and the rest of the construction was supervised by the Indian architect J.B. Fernandes. The magnificent interiors were designed by Waman Joshi and Habib Hoosein himself. The first film to be screened here was Mehboob Khan's blockbuster "Andaz (1949) starring Nargis, Dilip Kumar and Raj Kapoor. After the grand opening, every producer wanted their films to be screened at Liberty.

In 1970, plagued by ill-health, Habib Hoosein handed over the management of the cinema to a group of distributors which sadly saw the deterioration of this grand old cinema. Nazir Hoosein, the son of Habib Hoosein, took the new management to court and managed to wrest back control of his father's legacy. He promptly set to work to restore the dilapidated cinema to its former glory.

Liberty Cinema gained a new lease on life with the release of Rajshri Productions "Hum Aapke Hain Koun" (1994). The film was a runaway success and ran to full houses, three shows a day, for 44 consecutive weeks. It is said that legendary artist M.F. Husain, infatuated by Madhuri Dixit, saw the film almost 50 times at Liberty Cinema. Today, Liberty has been categorized as a Grade 2A heritage building and is reinventing itself as a centre for the performing arts and a cultural hub.

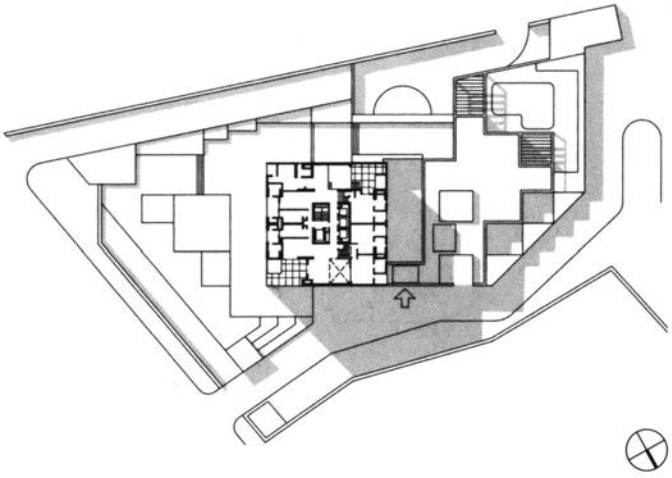
Kanchanjunga Apartments
Charles Correa
1970-1983

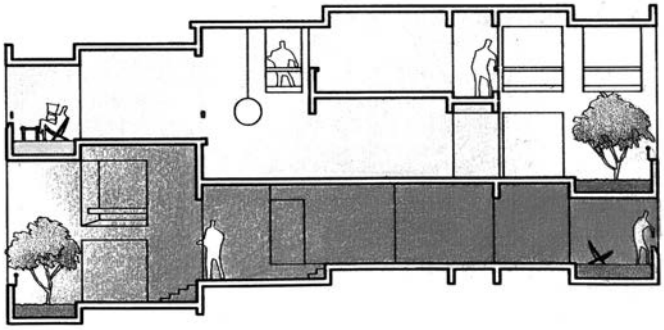
Das 28-geschossige Wohnhaus, das Charles Correa von 1970-83 in Bombay geplant und gebaut hat, verfügt über hohe Aussenräume, die der Architekt Terrace-gardens nennt. Die jeweils über zwei Geschosse reichenden Aussenräume sind an den Hausecken positioniert und bilden den zentralen Bezugspunkt der dazugehörigen Wohnräume. Diese sind durch die zurückversetzte Lage vor den heissen Sonnenstrahlen und den heftigen Monsunregen geschützt. Im oberen Bereich der Loggia ist den Schlafzimmern eine Balkonschicht vorgelagert, so dass der Aussenraum auf zwei Ebenen nutzbar ist und vielseitige Ein- und Ausblicke innerhalb der eigenen Wohnung möglich sind. Durch die grossen Ausschnitte an den Ecken des Turms sieht man die innere Fassade, die sich durch farbige Keramikkacheln und hell gestrichene Decken auszeichnet, und so als ein innerer Teil der Wohnung gelesen wird. Durch das Herunterrollen der Bambusmatten wird die Trennung zwischen Innen und Aussen verstärkt, die blickdurchlässigen Paravents gestatten aber weiterhin den Blick nach aussen. Bei jeder Terrasse ist an der Aussenseite ein Bereich für die Bepflanzung ausgespart.

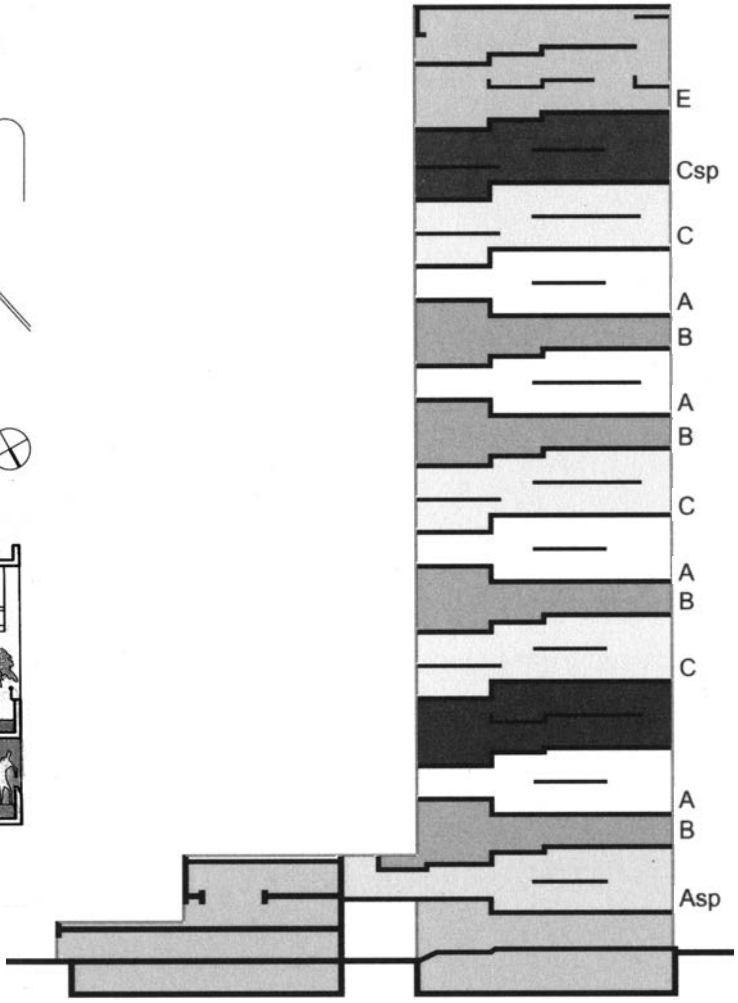
Fünf der sechs Wohnungstypen sind Maisonnetten. Teilweise verfügen sie neben dem Terrace-garden über einen weiteren doppelgeschossigen Raum innerhalb der Wohnung. Die verschiedenen Wohnungstypen sind in Grundriss und Schnitt ineinander verschachtelt. Correa arbeitet auch im Innern der Wohnungen mit feinen Niveausprüngen und differenziert zudem durch unterschiedliche Raumhöhen, um die unterschiedlich genutzten Raumzonen voneinander abzusetzen.

Bei der Erläuterung zu seinem Projekt bezieht sich der Architekt auf die alten Bungalows der Region. Den Wohnräumen war immer eine Veranda vorgelagert, um die dahinterliegenden Wohn- und Schlafräume vor Hitze und Witterung schützten. Dieses Prinzip benutzte Correa beim Entwurf des Kanchanjunga Apartmenthouses und erreicht so, dass in den Wohnungen während des ganzen Jahres ein angenehmes Klima herrscht. Die zweite Idee, die der Architekt bei der Gestaltung der Aussenräume im Auge hatte, war ebenfalls von den Veranden der Bungalows inspiriert, die oft als Übergangszone zum eigentlichen Garten als Raum für Pflanzen genutzt wurde. [...]

Barbara Schlauri, *Stipendium Erich Degen Stiftung der ETH Zürich. Unter freiem Himmel. Charles Correa*, Zürich 2003



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Apartment type A

Apartment type B

Apartment type C

Apartment type D

Mukesh Ambani Residence
Perkins + Will
2010

The newest and most exclusive residential tower for this city's superrich is a cantilevered sheath of steel and glass soaring 27 floors into the sky. The parking garage fills six levels. Three helipads are on the roof. There are terraces upon terraces, airborne swimming pools and hanging gardens in a Blade Runner-meets-Babylon edifice overlooking India's most dynamic city.

There are nine elevators, a spa, a 50-seat theater and a grand ballroom. Hundreds of servants and staff are expected to work inside. [...]

The tower, known as Antilia, is the new home of India's richest person, Mukesh Ambani, whose $27 billion fortune also ranks him among the richest people in the world. And even here in the country's financial capital, where residents bear daily witness to the stark extremes of Indian wealth and poverty, Mr. Ambani's building is so spectacularly over the top that the city's already elastic boundaries of excess and disparity are being stretched to new dimensions.

"One family is going to live in that?" said Prahlad Kakkar, an advertising filmmaker and prominent city resident. "Either it is a landmark, or a symbol, or it is Mammon." He added: "There is shock and awe — both at the same time."

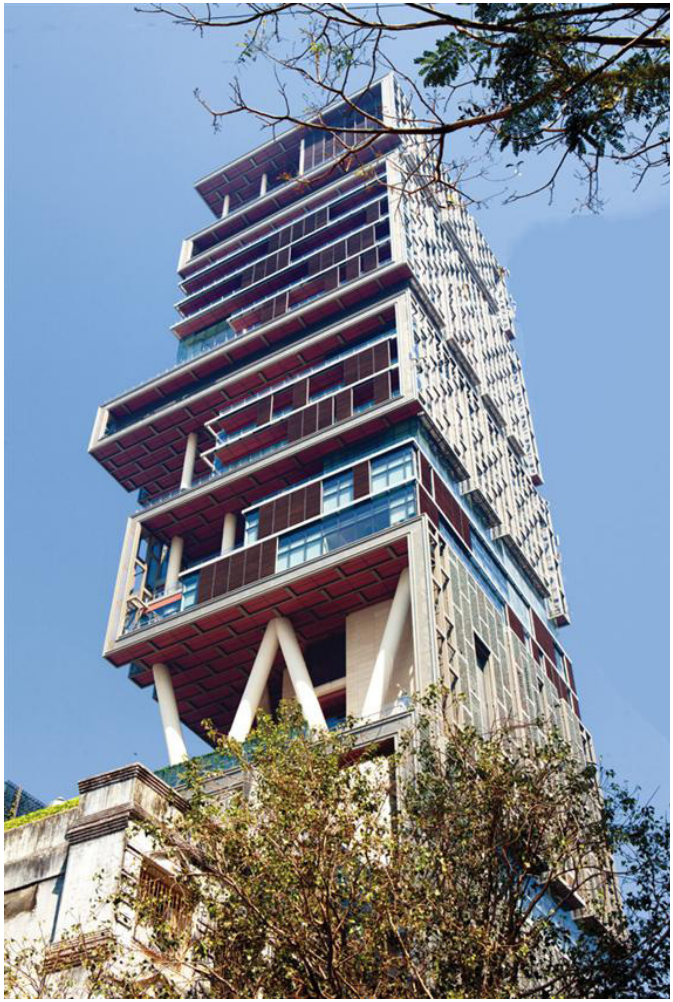
Mr. Ambani, his wife, Nita, and their three children [...] move[d] into the building after a housewarming party with 200 guests [...]. For his part, Mr. Ambani has refused to comment about the project and required his designers, decorators and other contractors to sign confidentiality agreements, as if a cone of silence could be erected around a skyscraper rising near the edge of the Arabian Sea. [...]

Regardless, a gawking city has greeted the new tower with a mixture of moralizing and astonishment, envy and condemnation, all sprinkled with Freudian analysis of the most basic question: Why did he do it?

"We are all sort of perplexed," said Alyque Padamsee [...] "I think people see it as a bit show-offy."

A bit.

www.nytimes.com



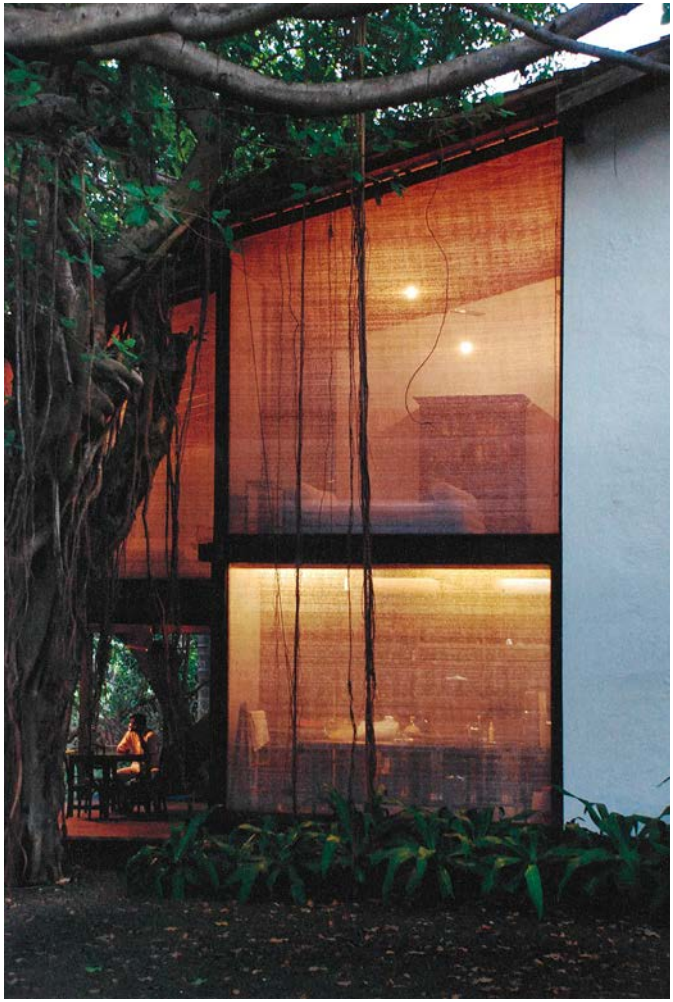
Reading Room
Studio Mumbai - Bijoy Jain
2003

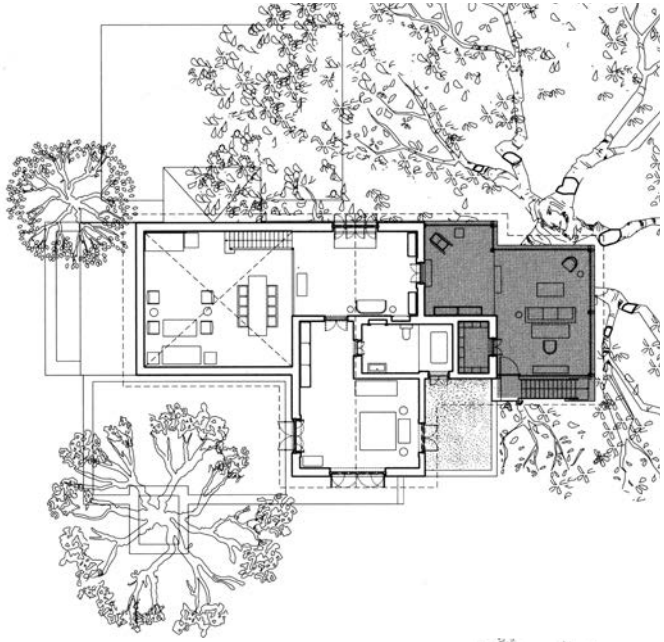
Built as an extension to the existing house, housing within its extended self the kitchen and its ancillary spaces at the ground level and private study and living spaces above, the ante-building becomes the foil off of which the entire complex of the workshop can be understood.

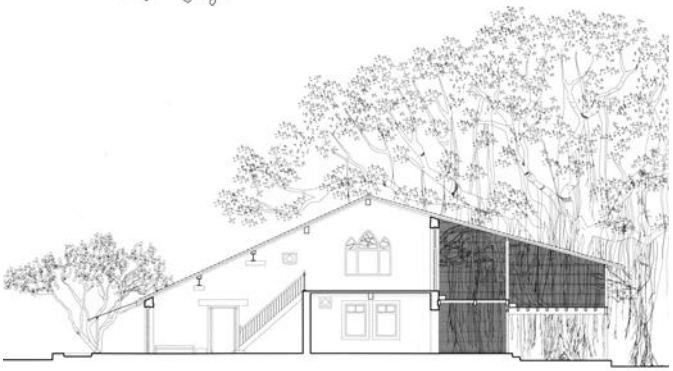
The primary material of the building is fabric - a white scrim-like version of agricultural net used in commercial farming, and this material decision reflects a core approach that the studio operates with: an intention to include the elements, invite them to become part of the architecture while protecting the interior from their potential extremes.

The mesh acts as a semi-permeable membrane on a cell might, allowing in light, air and the registration of movement and life on the banyan tree at its junction, while disallowing an inquisitive eye from witnessing life on the inside. The tree on its part protects the extension from the incident rain and sun. Situated at the northwest corner of the extant house, the extension becomes a point of lookout and registration - it alerts the workshop yard, artisans' and architect's housing and the swimming pool to orient themselves to a common centre - that of the processes of the workshop, stemming as they do, from the fermenting of materials and ideas, not unlike the activities of the kitchen and reading room housed within the extension.

Toru Kato, ***Studio Mumbai: Praxis***, Tokyo, 2012



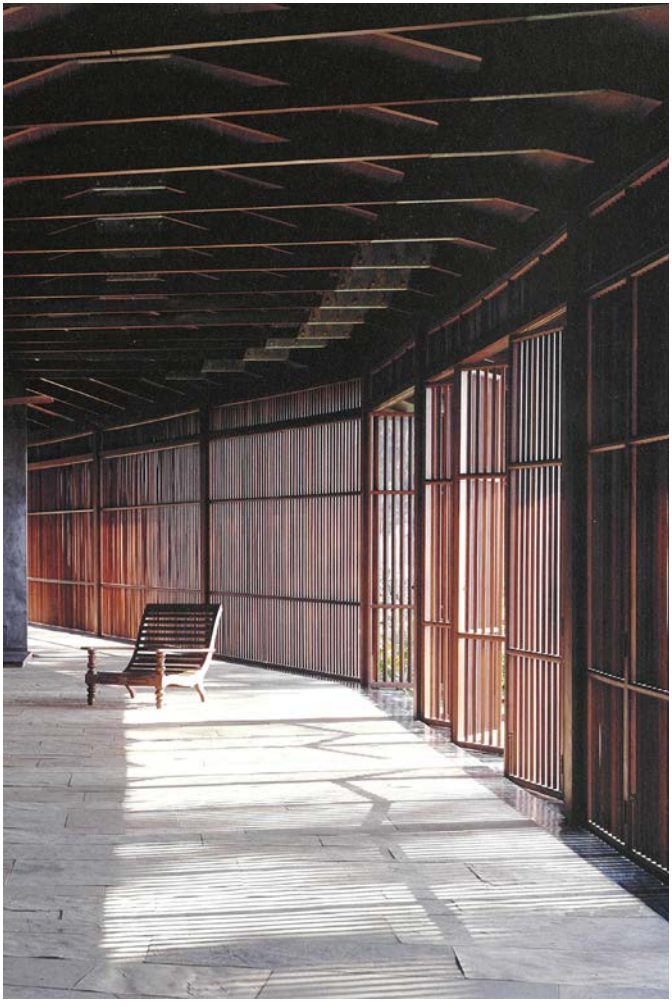




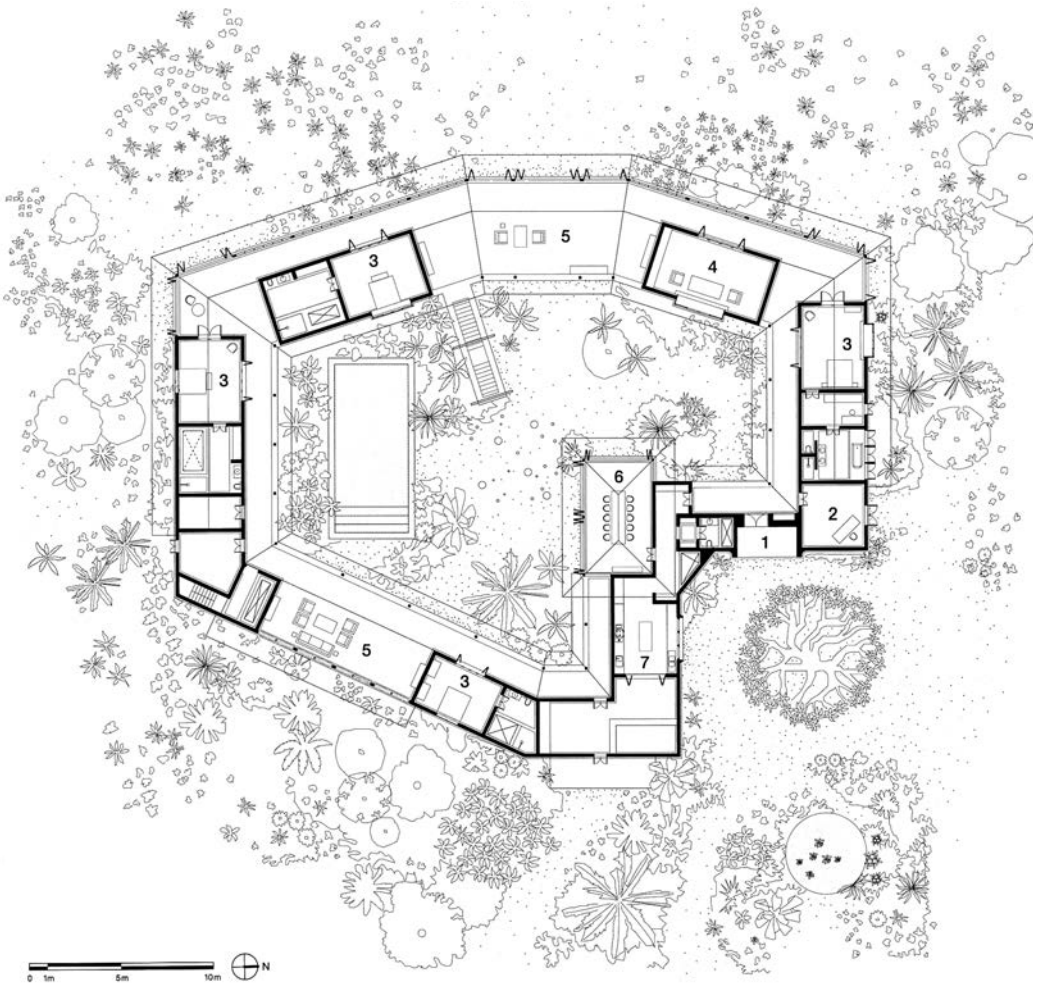
Tara House
Studio Mumbai - Bijoy Jain
2005

Tara House unfolds as if from a notional planar pinwheel, with the multifaced courtyard garden approached from a ringed arrangement of discrete rooms, forming the ventricular centre of the experience of the house.

The garden is approached through walkways, verandahs and window arrangements, and a wood-framed roof forms a unifying plane for the variously protected living spaces. Vertically slatted partitions, parliamenthinged, adjustable-louvered doors and burnished graphite-coloured walls together enable concentric layers of enclosure and mingling in this multi-generation country house. The dark, rich plastered walls impart a suspension of light into the concentric plumbago-edged verandahs and absorb the viridian courtyard as if into the house. Accessed by a stone staircase which descends beneath the courtyard, there lies a stone-lined, water-filled room like an aqueous, subterranean planetarium. Carefully arranged circular openings in the courtyard above draw in light, air and the monsoon rain. The percolating rainwater replenishes the aquifer which waters the pool and gardens and provides respite from the thick heat of the summer; intense points of light on the hewn stone walls form an underground stellar map. The room acts like a building conch, with oceanic reverberations to remember the nearby sea with.

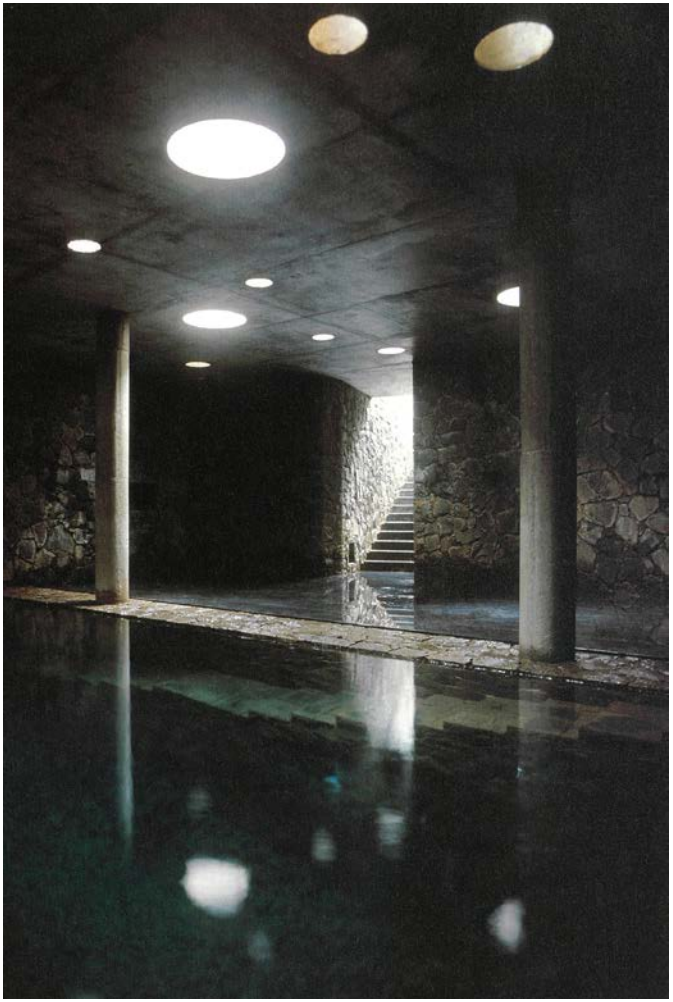


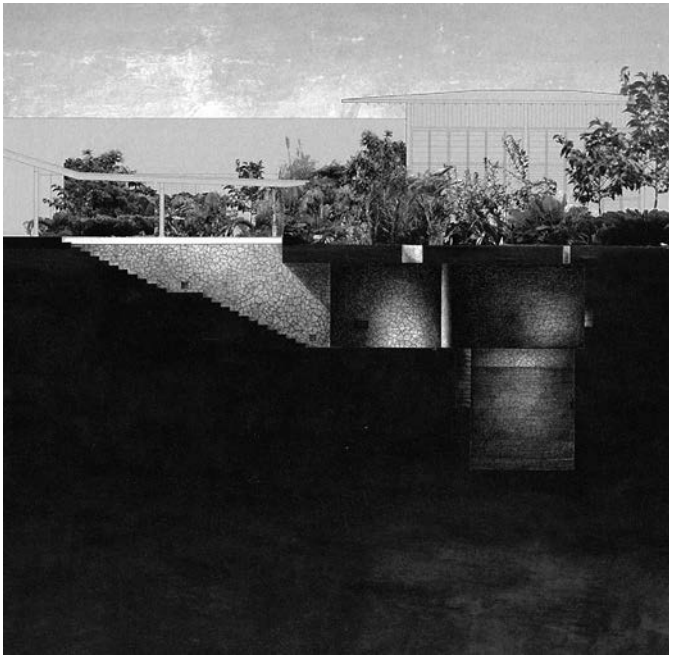
Toru Kato, ***Studio Mumbai: Praxis***, Tokyo, 2012



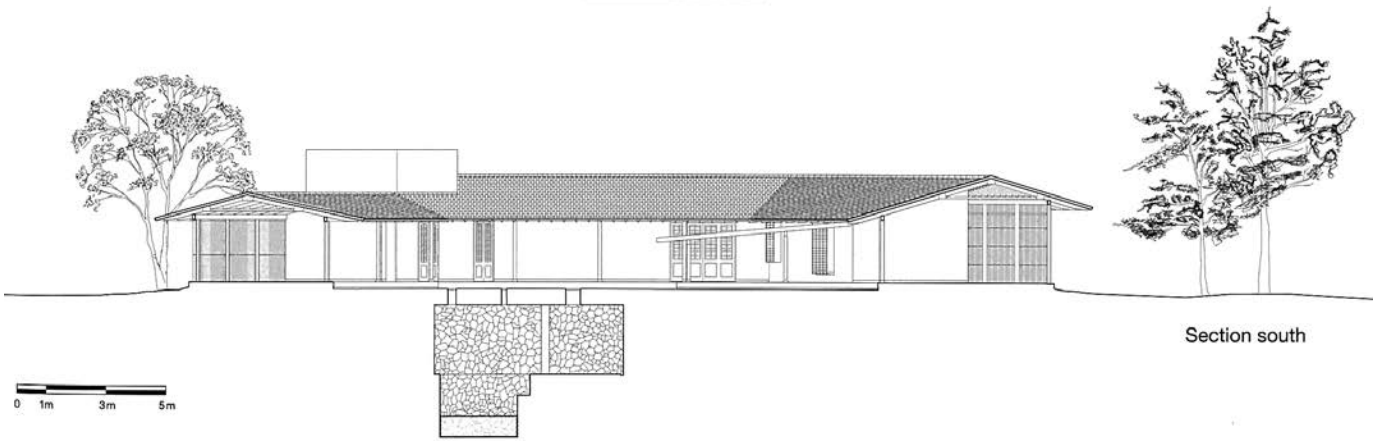
Ground floor plan

1 entry
2 study
3 bedroom
4 living room
5 veranda
6 dining
7 kitchen





Section east



Section south

0 1m 3m 5m

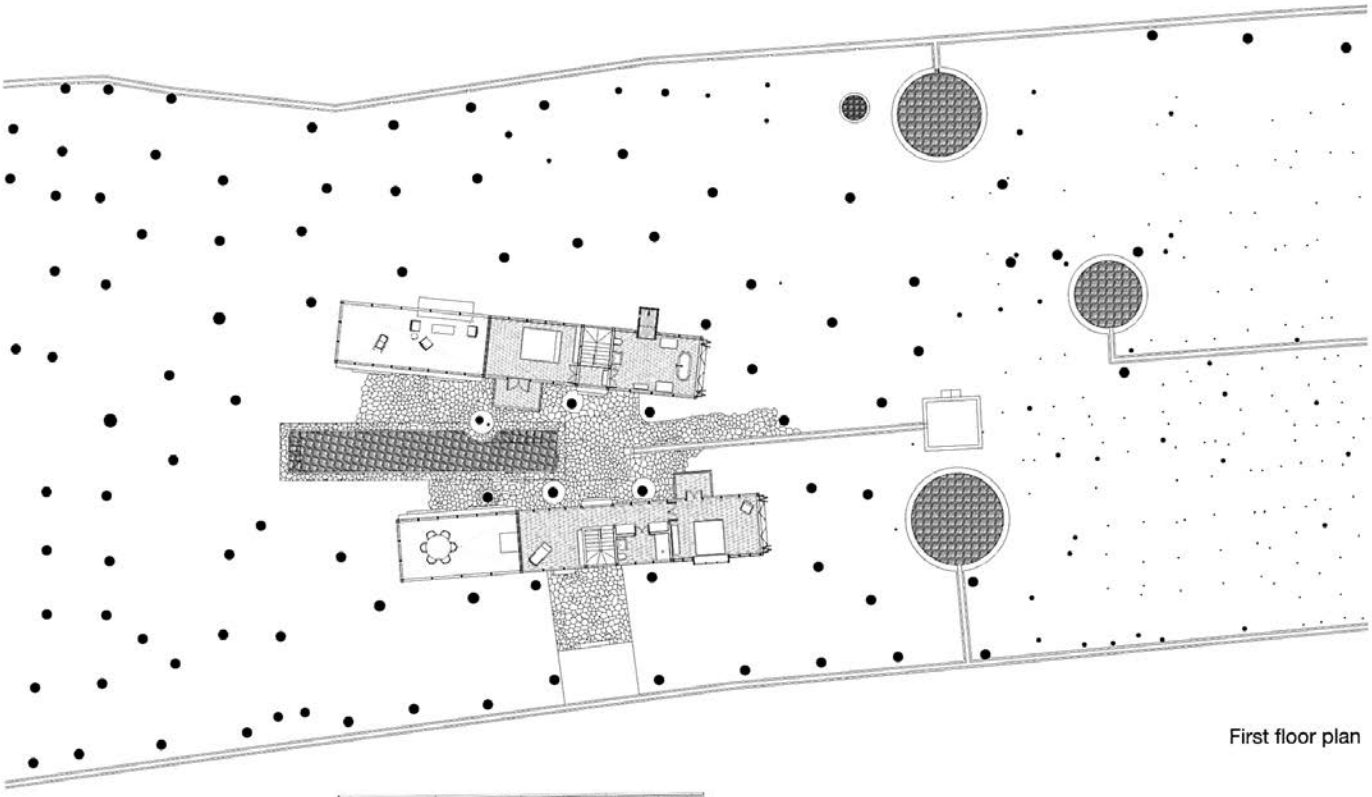
Palmyra House
Studio Mumbai - Bijoy Jain
2007

Accessed by foot along a moss covered stone aqueduct, the house is constructed as two timber-framed volumes and sits at the heart of a dense coconut plantation, positioned carefully to preserve as many trees as possible. The wooden boxes are anchored to stone platforms which overlook wells, water channels and a field of palms, weaving and absorbing this complex landscape into an inhabitable whole.

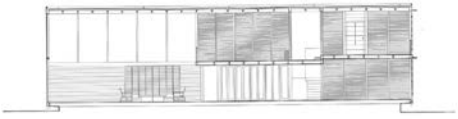
Light and air filter through the handcrafted wood structures, gently inundating the spaces. Alternating reflections, shadows, brightness, and semi-darkness enliven the way in which the house is revealed. The house disperses living and reading in the north volume, while the south contains cooking and dining; sleeping and bathing functions are shared in both structures. Events oscillate between these two volumes, involving the space in between, and the infinite in this performance. Set within this space is the pool, a channel for swimming towards endless vistas of palm trees to the east and the sea to the west.

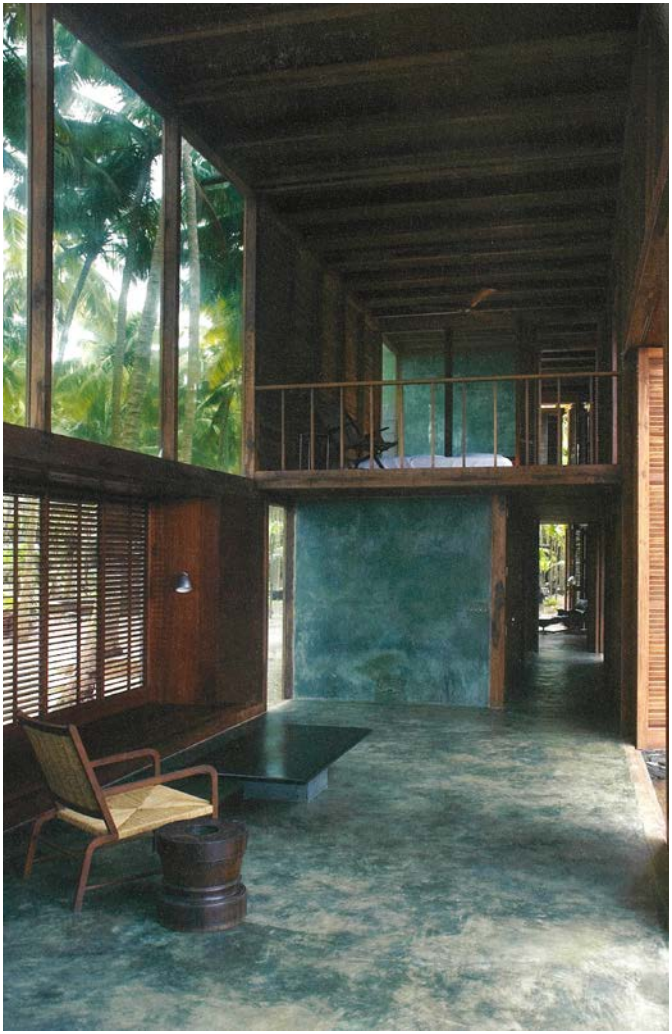
The density of the trees prevented the use of heavy equipment and all phases of work were executed manually by artisans from the studio. Structural framing for the house was fabricated of ain, a local hardwood, and prepared in the workshop. It was later assembled at site using interlocking joinery. The external louvers were made from the outer part of the palymra trunk, a local palm species and were carefully calibrated to provide protection from the sun, wind, and rain and privacy to the interiors. Exteriors were detailed with hand-worked copper flashing and ship lapped wood siding while interior surfaces were finished with teakwood and graygreen coloured cement plaster screed, mimicking lichen that pattern the bark of coconut trees. Four wells on the site supply the house with water and irrigate the plantation using aqueducts typical of the area, involving the landscape in an ongoing and reciprocal relationship with inhabitation: the continuation of tradition, the beginning of a ritual.

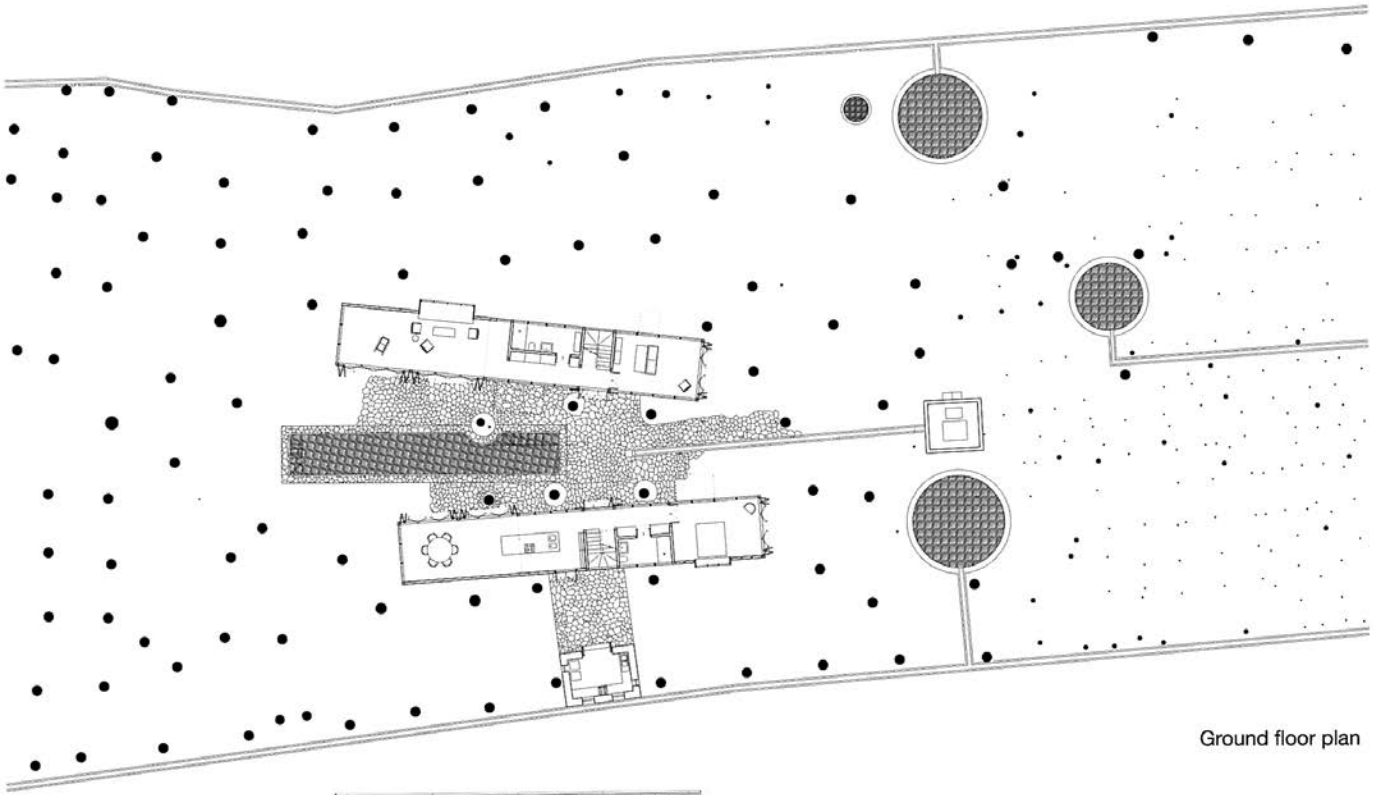
Toru Kato, *Studio Mumbai: Praxis*, Tokyo, 2012



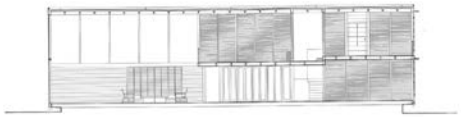
First floor plan

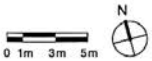






Ground floor plan

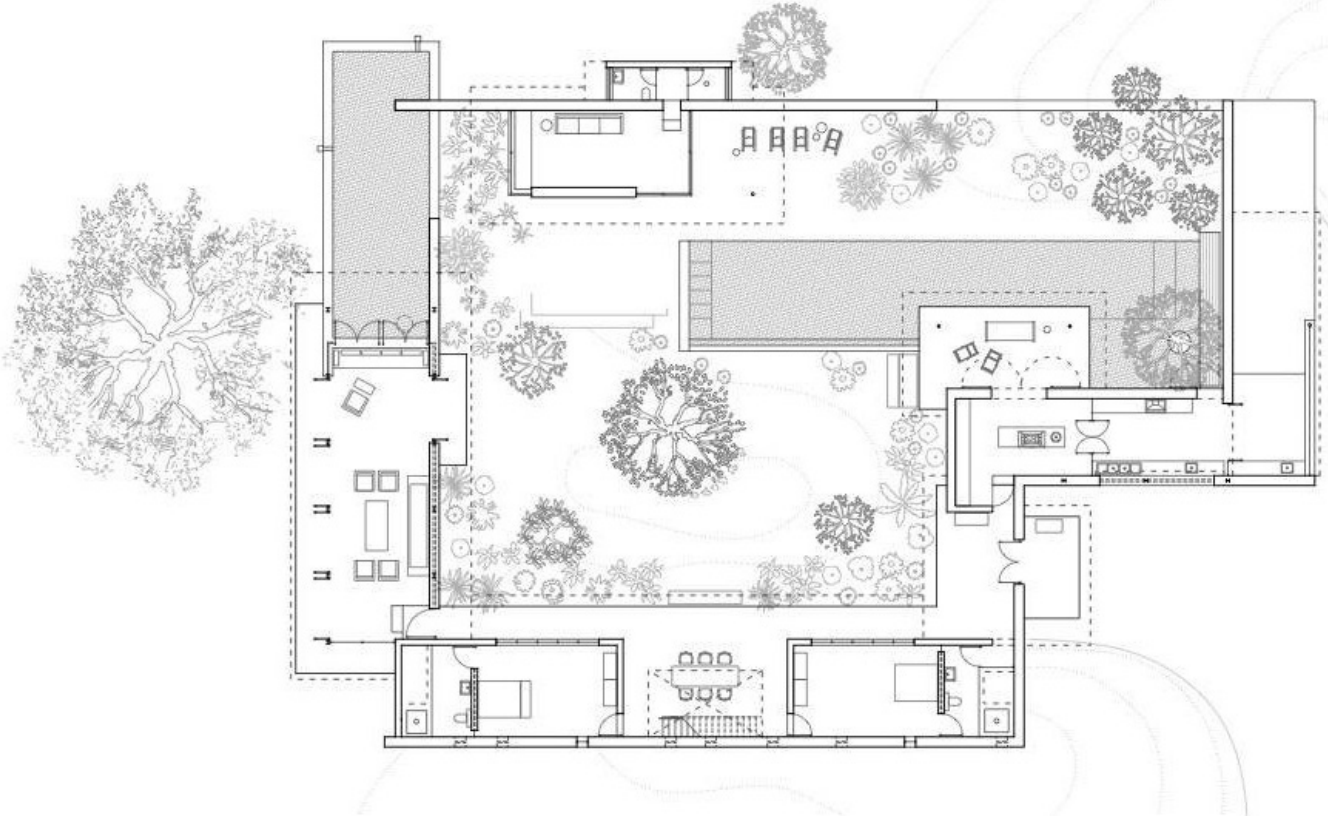


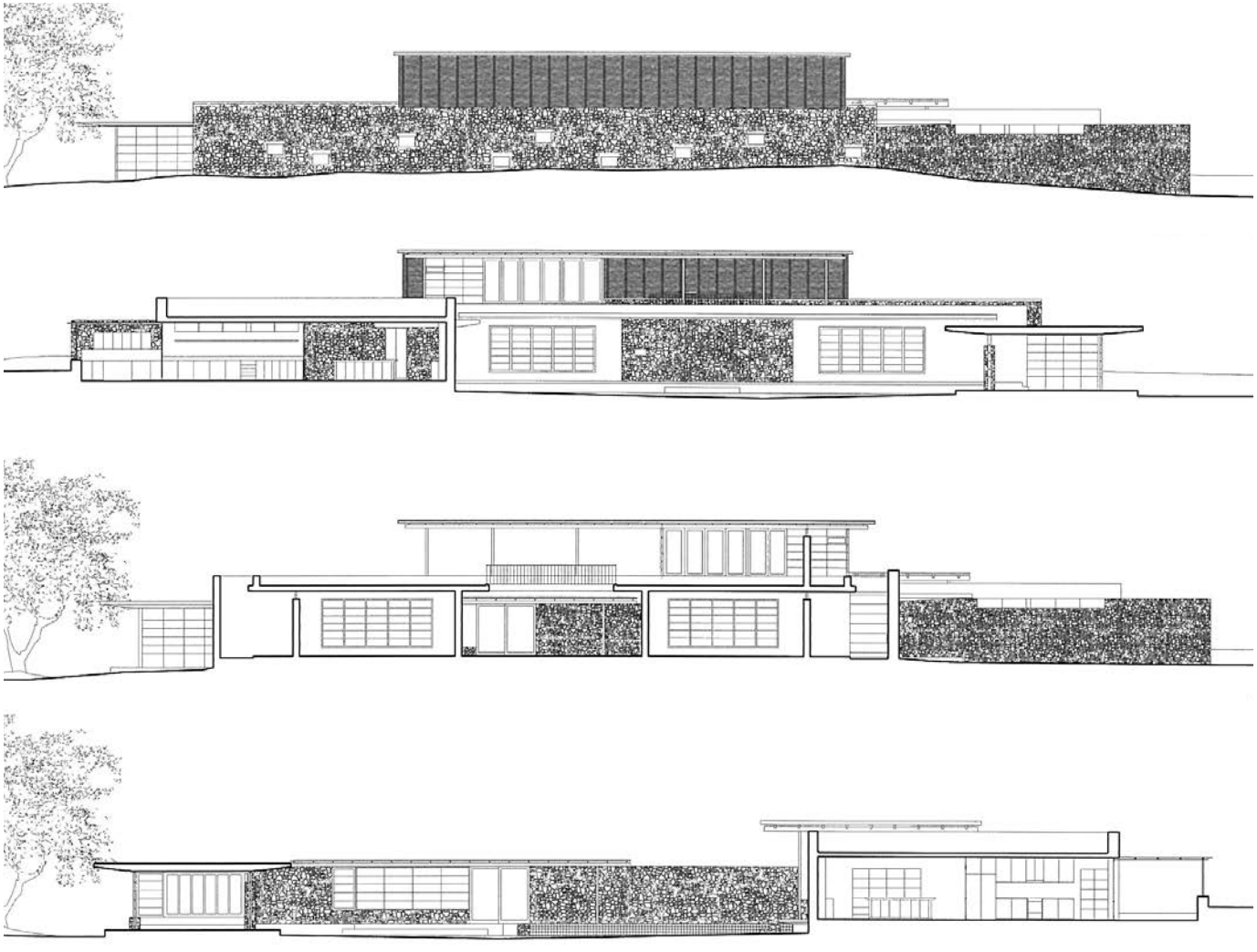


Utsav House
Studio Mumbai - Bijoy Jain
2008

Arranged as a system of interlocked pavilions, continuous with one another and every change in grade both of the interior and the barren plateau on which it is situated, the house is defined in its inward relationship with itself.
Local basalt, thick and black, is used to create the four stone walls that form the bastion within which this single-family dwelling acts itself out, providing structure and enclosure for the house.
The verandah, an element that has been the defining space of housing in the subcontinent, here becomes the feature which is elasticated, as roof and ground planes are manipulated to capture and control light and air within the programmed volumes.
Pools and partial garden-like plantations are planned into the cardinal sections of the house, creating changes in height, roof systems and levels of light. The main courtyard contains a traditional catchment pool, training the water to overflow into the surrounding gardens.
Interior walls and floors are pigmented to imitate the savannah-like dry grasses of the surroundings, and concrete and basalt stone align with timber framing in the material language of this assemblage of pavilions. The owner's fear of the dark was overcome in this house, disallowing as it does, the complete entry of the night into its depth, instead diffusing the diurnal elements of light and night until a delicate balance between earth and sky is negotiated.

Toru Kato, *Studio Mumbai: Praxis*, Tokyo, 2012





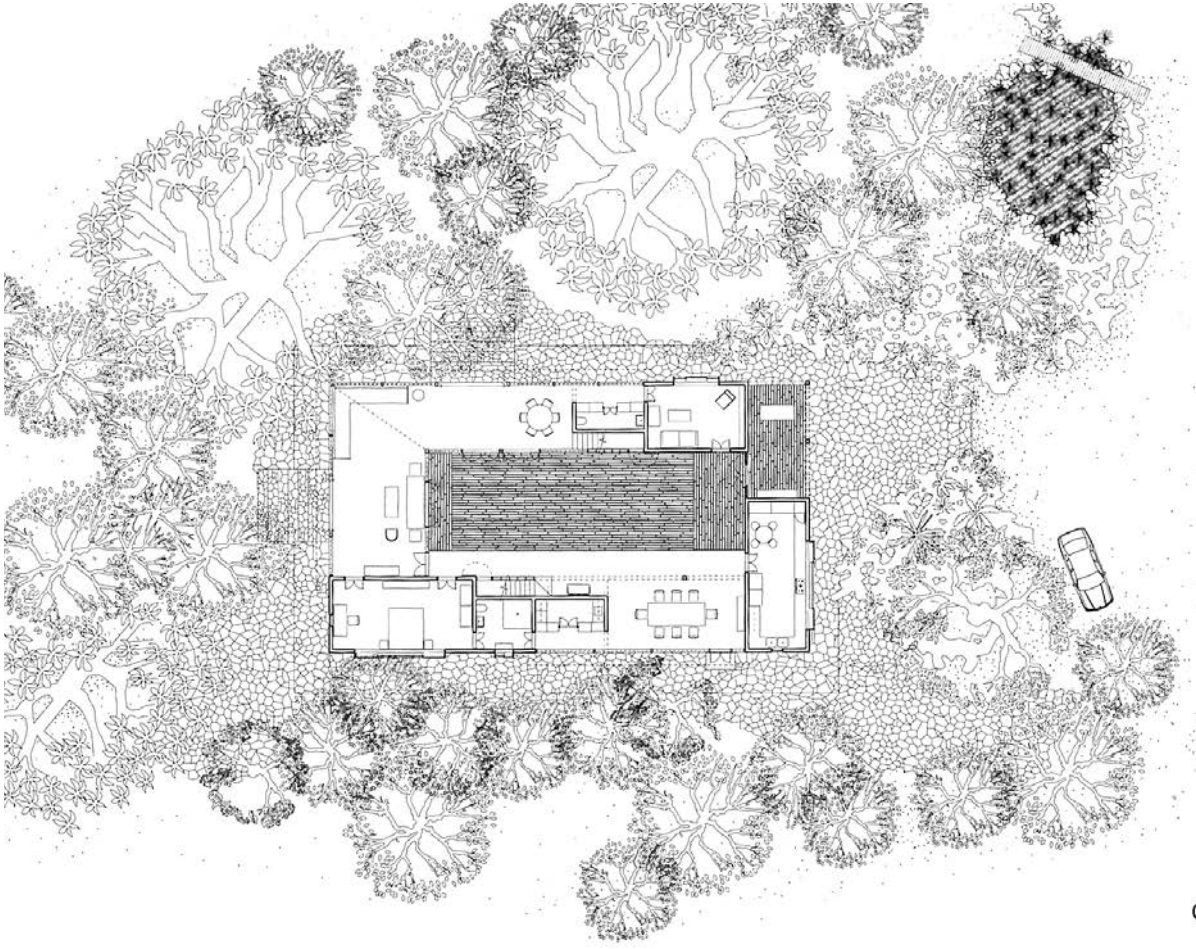
Copper House II
Studio Mumbai - Bijoy Jain
2011

Using the monsoon to compact the soil that was the resultant material from the dig for the well, the foundation for the house was built. The severe flood of Mumbai in 2005 had marked its high-water mark on a pumphouse extant to the site, and using it to register the datum for the house, a stilt foundation was built above the high-water line. The central fill came from the excavation for the well, and around a court, the house grew.

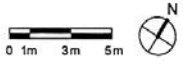
The logic of the building is written into three primary architectural moves. The first is the creation of two distinct blocks, separated by the stonepaved courtyard on the ground, and united by the cupric roof plane at the upper level. The two blocks function as discrete personal spaces on the upper level, one is a singular space of bedroom and bath, the other has an additional study. At the ground level, an indoor family room becomes an adjunct to the main living space which does not have the containment that the other more private spaces exhibit. This main space functions literally as the deck of the house, overlooking the landscape and the courtyard, creating a simultaneity of vistas. The copper-covered private spaces at the upper level are positioned in mutual tension, with the guarantee of simultaneous intimacy and isolation, so essential to the domestic interior. The second definitive move is the layering of light which is articulated with screening devices made of fine netting framed in traditionally crafted wood, fluted glass which diffuses the light and greenery and hints at the absent city, and sliding and folding wooden windows, all of which allow for degrees of seclusion. The walls are finished in wa celadon-coloured traditional plaster, giving the transitory appearance of a fragmented ceramic container, rectilinear and encased with a lid of weathered copper. The continuous copper roof plane forms a secondary datum for the house, becoming a surface of potential occupation and cover.

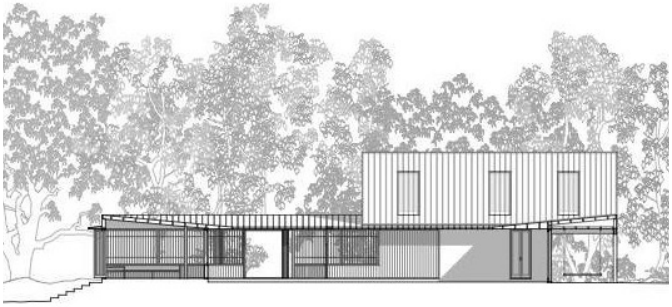
The last is the inclusion of the element of water, in the form of the monsoon rain relentless as it is in its action on material and mood, the well, the stream and the pool beyond the house. In this house, with its hortus conclusus' acting both as container and sieve, the architect's exploration of the rites of retreat, passage and exclusion are tested again.

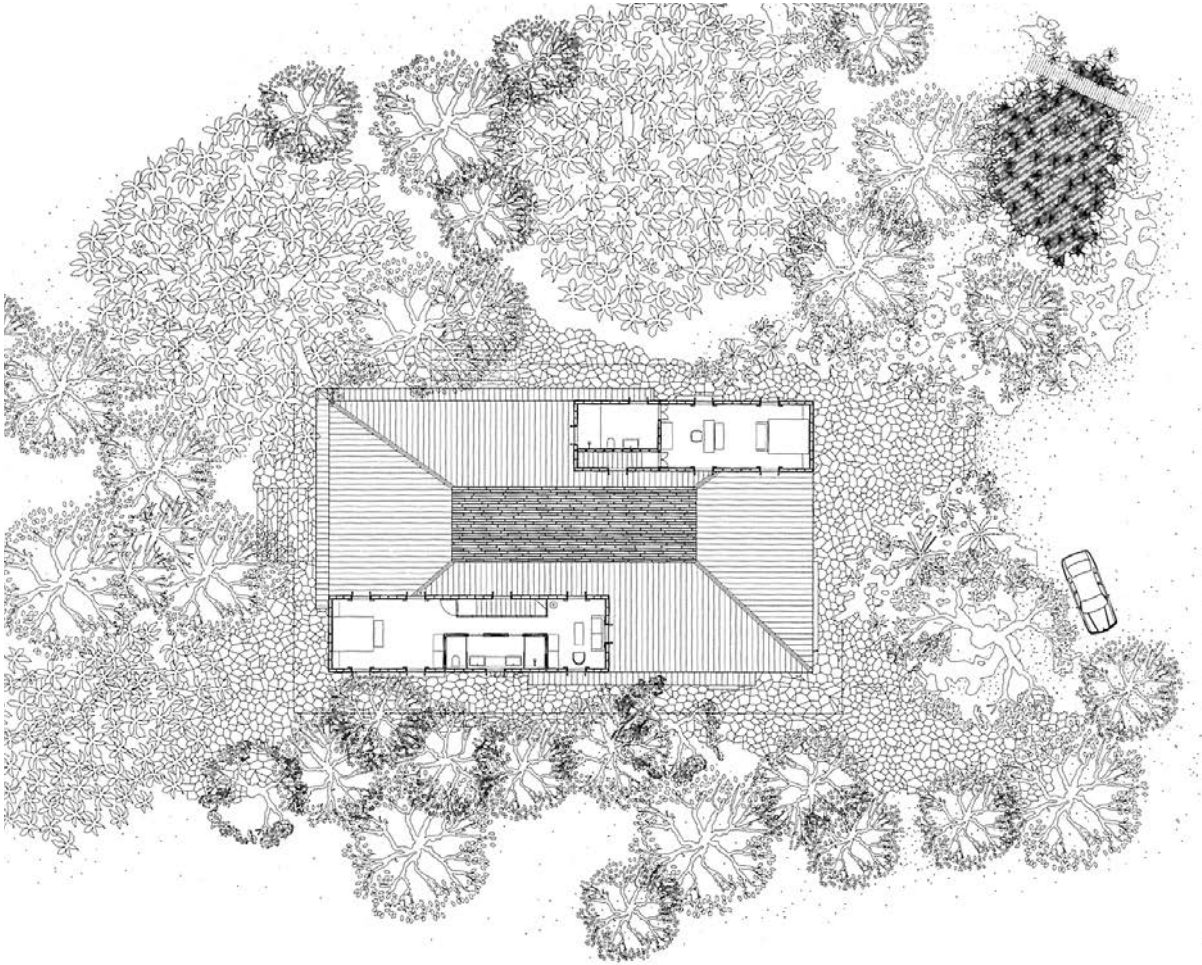
Toru Kato, *Studio Mumbai: Praxis*, Tokyo, 2012



Ground floor plan



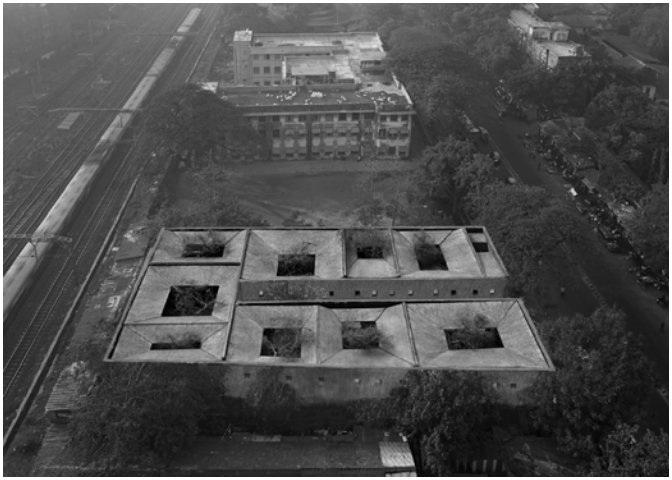




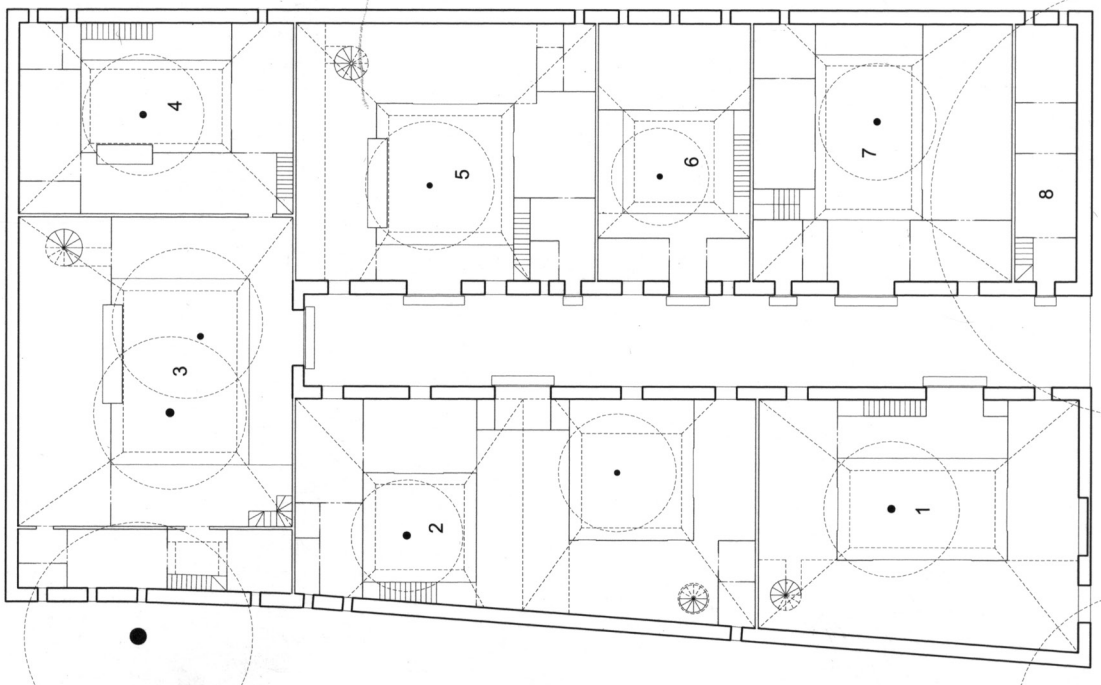
First floor plan

Saat Rasta
Studio Mumbai - Bijoy Jain
2011-2016

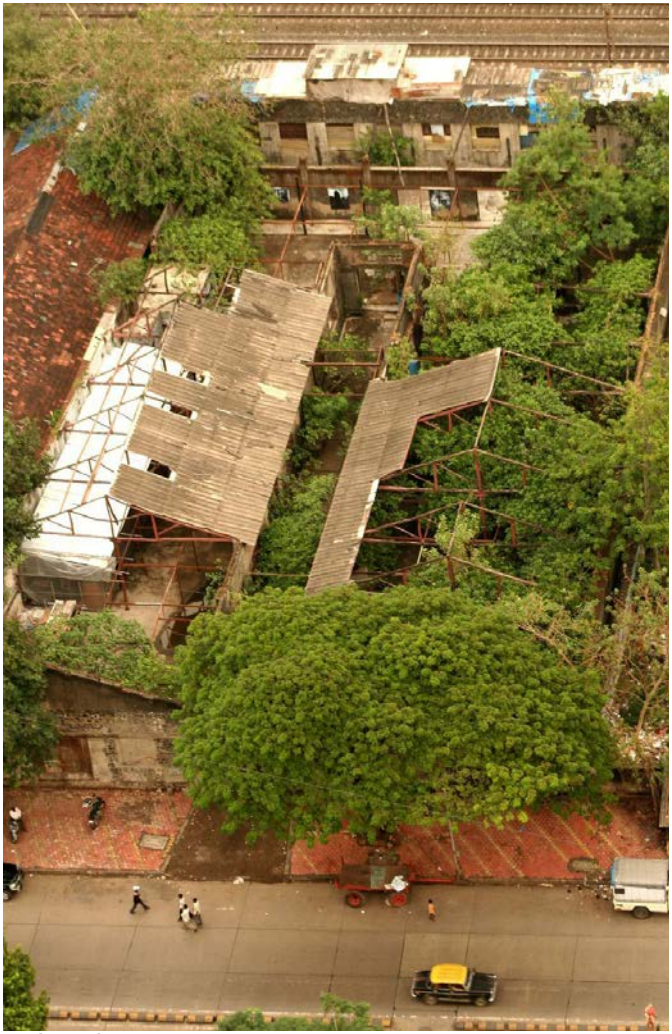
Seven studio/homes of varying size slip discreetly into a walled enclosure of an old Mumbai warehouse. A long narrow open space acts as a street connecting these dwellings.
Walking through this passage, one encounters the rhythm of different courtyards filled with undulating light. These spaces are entered through verandahs that interact with the neighbors.
The inward sloping roofs provide shelter from the sun and rain and collect the water through the courts into under ground storage tanks to be used in the summer months. A slender steel structure provides a frame to the interior spaces and courts. These interiors are rendered white, framing fluted and clear glass to obscure and reveal views within the enclosure, while floors are finished in local grey limestone, both reflecting the light drawn through the aperture of the roof and windows.
This project seeks to create an interiority that is intimate, secure yet open to the environment, providing respite, and absorbing through time, the ever changing forces of the city.



Toru Kato, *Studio Mumbai: Praxis*, Tokyo, 2012



1-7 studio / home
8 shared utilities



Vor dem Umbau

Während des Umbaus

Nach dem Umbau

The Tote
Serie Architects - Chris Lee und Kapil Gupta
2006-2011

Chris Lee and Kapil Gupta from Serie Architects have converted a disused building from Mumbai's colonial past into a banquet hall, restaurant and bar called 'The Tote'. The site was covered with mature rain trees whose wide spread leaves shaded most of the spaces throughout the year, permitting almost the entire new program to occur outdoors. [...]

Inspired by these rain trees, a new structural system creates a stunning aesthetic that runs throughout the space. Designed as a steel truss, the challenge lay in working through the construction system compatible with local skills. Rather than looking at steel fabricators within the building construction sector, the architects sourced boiler fabricators for high precision work.

This elaborate structural system becomes a spatial organizer as it defines each separate dining program (wine bar, restaurant, prefunction and banquet facilities) within a different spatial volume. The interior of the lounge bar on the upper level is an intricate arrangement of 3-dimensional, faceted wooden panelling, that is an abstracted textured take on the trees' intersecting branches.

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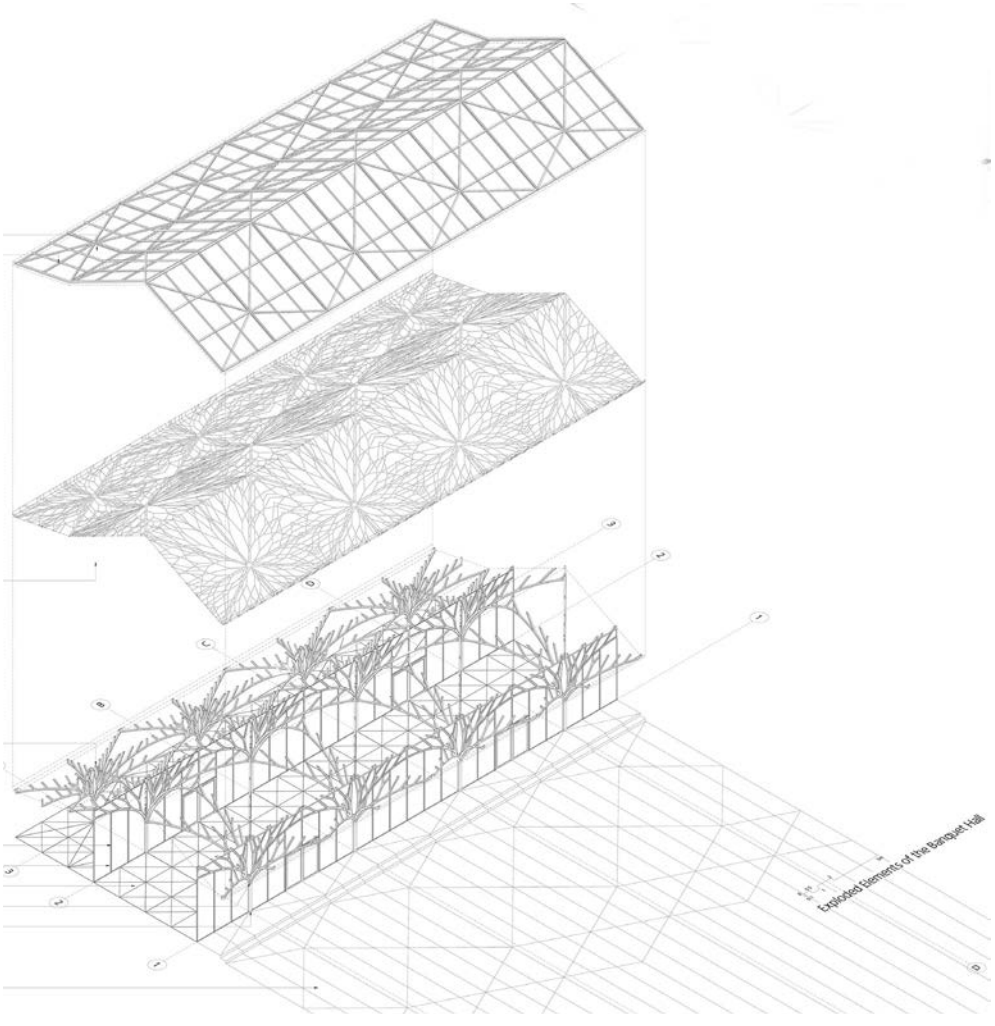
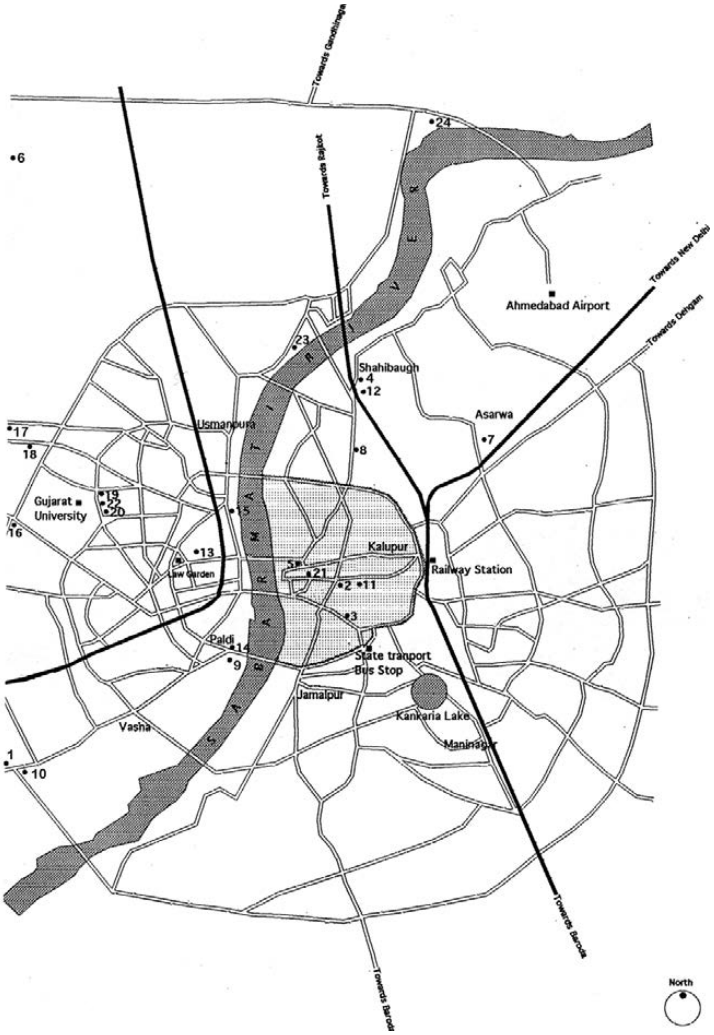
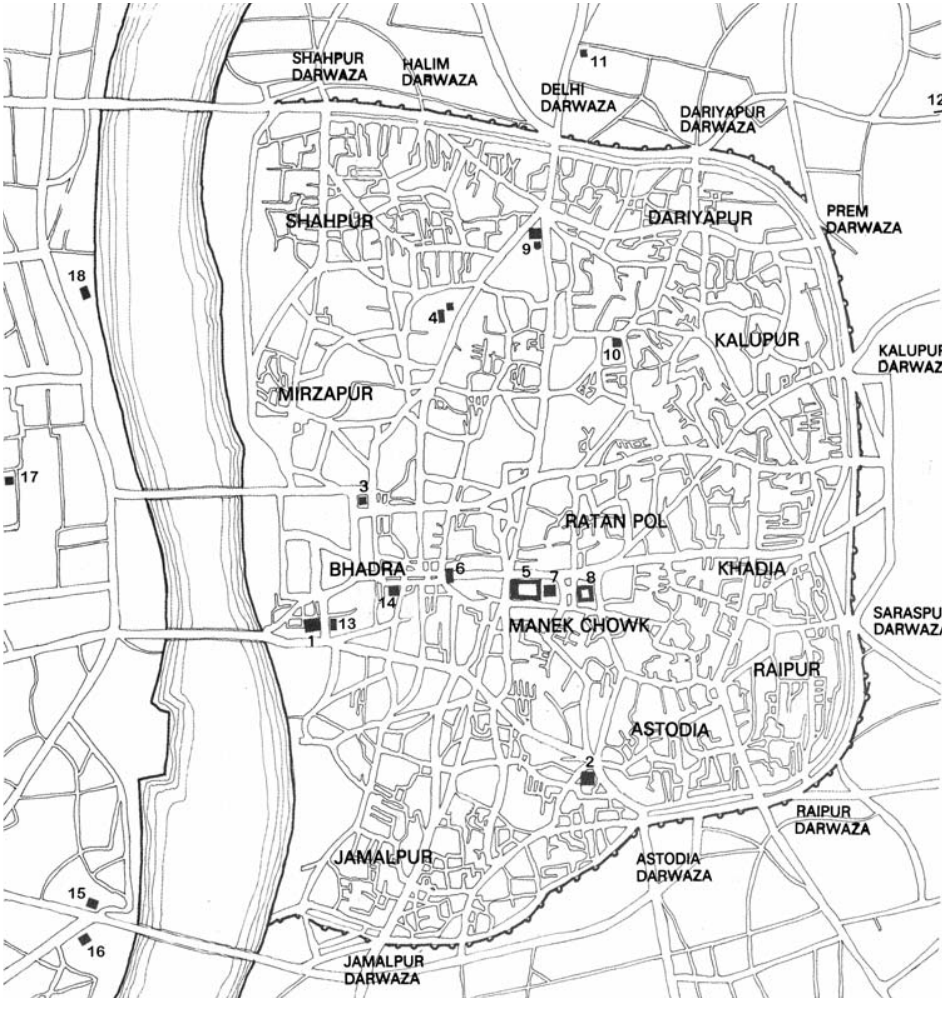

Exploded Elements of the Banquet Hall

AHMEDABAD



1 Sarkhej
2 Jami' Masjid
3 Tomb of Rani Spiri
4 Calico-Museum of Textile
5 Sidi Sayed Mosque
6 Adalaj step-well
7 Dada Harir step-well
8 Shet Hathisingh temple
9 National Institiute of Design
10 Vishala
11 Pol Area
12 Villa Sarabhai
13 Villa Shodan
14 Sanskar Kendra Museum
15 Mill owners Association
16 I.I.M.
17 Sangath
18 Gandhi labour Institute
19 C.E.P.T. - School of Architecture
20 L.D. Institute of Indology
21 Premabhai Hall
22 Hussain-Doshi Gufa
23 Gandhi Ashram


SHAHPUR DARWAZA
HALIM DARWAZA
DELHI DARWAZA
DARIYAPUR DARWAZA
PREM DARWAZA
SHAHPUR
DARIYAPUR
KALUPUR
KALUPUR DARWAZ
MIRZAPUR
RATAN POL
BHADRA
KHADIA
MANEK CHOWK
SARASPU DARWAZ
RAIPUR
ASTODIA
RAIPUR DARWAZA
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JAMALPUR DARWAZA
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Ahmedabad

in: Professur Wolfgang Schett, ETH Zürich, *Bombay-Ahmedabad*, Seminarreisereader HS 2008, Zürich, 2008, S. 61-66.

Ahmedabad has had the good fortune to remain the capital of Gujarat from the fifteenth century to almost the present day with only occasional gaps, The growth of the city is examined here from the perspective of historical archaeology which considers the results of excavations from salvage archaeology in the light of epigraphy, literary references and toponyms.

Prehistory

Archaeological explorations in the Ahmedabad region have revealed the presence of Late Stone Age tools at various sites, including Vatva to the southeast. Though the expanding city has destroyed a good part of the prehistoric landscape, including numerous archaeological sites, the study of bones and tools found at similar sites indicates that cattle breeding were practised in the Ahmedabad area by people of the Stone Age as they moved in search of good pastures. The shallow lakes at the base of the sand dunes at Thaltej on the west bank of the Sabarmati suggest that this was one suitable prehistoric pastoral campsite. Similarly situated campsites elsewhere indicate that these Stone Age cattle breeders preferred higher areas; shepherds tending goats and sheep still tend to avoid low and humid places for their animals. Elevated sites overlooking the landscape may have been additional vantage points for these first occupants of the region. According to our chronological studies, these Stone Age settlements date back to before the second millennium B.C. The problems of the disappearance of this culture are not yet fully understood.

Ashaval

The next stage in the habitation of the Ahmedabad region is indicated by finds on the eastern bank of the Sabarmati. Relics are scattered in several spots, including Sarangpur, Raipur, Raikhad, Bhadra and Saptarshi Ara. According to the available evidence, it appears that the earliest habitation was known as Ashaval. This town was about two days journey from Cambay (Khambhat) according to the eleventh-century Persian historian Al-Biruni. In the eighteenth--century history of the city, the Mir'at-i Ahmadi, the temple of Ramnath is supposed to have existed before the establishment of Ahmedabad. Our examination of the Ramnath shrine in Devnisheri in Mandvi-ni Pol near Manek Chowk indicates that this shrine was already in worship from about the tenth century. This temple is related to two other Natha temples, Maneknath and Kamnath, which mark points north and south of the Ramnath shrine (in Manek Chowk area, and south of Raipur Darwaza, respectively). The present Kamnath temple dates only from the Maratha period; however, archaeological relics in the compound are much older. They include eleventh-twelfth century sculptures of a two-armed Surya figure and a fragmentary Navagraha panel. When these sculptures are correlated with similar relics at Dhalh-ni Pol in Raipur, Sarangpur and other sites, it is clear that the area delimited by Sarangpur on the east, Ramnath on the west, Kamnath on the south, and Maneknath on the north may define the ancient extent of Ashaval. We assume that it is within this area that the main population of the city was concentrated.

Our inference about the location and size of Ashaval is supported by a reference to Pinchumandarka Tirtha (now near the Panchanath Mahadeva temple southeast of Ellis Bridge) noted in the Padma Purana. In the area of present-day Bhadra, several stone images of Surya have been recovered from the northeastern bastion of Gaekwad's Haveli, and the Panchanath Mahadeva temple. These images testify to the historical validity of the references in the Padma Purana. They also suggest that Surya was worshipped at Ashaval from the eighth century onwards. Further sculptures ranging up to the thirteenth century have also been discovered in other parts of the city.

Al-Biruni and several twelfth-century Jain writers refer to the activities of Ashaval, which was evidently a well-known and prosperous city during the fourteenth-century Tughluq period. It was at Ashaval that Tatar Khan proclaimed the independence of the Gujarat Sultanate in 1403.

Karnavati

According to Merutungacharya, a fourteenth-century Jain writer, Karnadeva, the Solanki ruler of Anahilvada-Patan, conquered Ashaval and built another capital nearby which was named after him, Karnavati. While this particular reference seems to be a later insertion into Merutungacharya's text, it does preserve the local historical tradition about the growth of Ahmedabad. According to this tradition, Karnadeva established another settlement near Ashaval in the later part of the eleventh century. This reference does not indicate the precise location of the new town, but several possibilities may be postulated: Karnavati may have coincided with Ashaval; the two cities may have been adjacent;

or, Karnavati may have been located at another site which we identify with the area south of Calico Mills in Behrampur. (In the seventeenth century, during the Mughal period, a new suburb was laid out in the south of the city, also named Ashaval; there is, however, no connection between the two Ashavals other than the coincidence of their names, possibly intended to continue the tradition).

An interesting stone inscription mentioning Karnavati and Stambhatirtha was obtained from Saptarshi Ara, an elevated site on the south side of the city overlooking the Sabarmati. Our archaeological investigation of this area has revealed relics dating back to the twelfth-century Solanki period. Here there is a small Shiva temple with a broken linga of black stone similar to that on which the epigraph mentioned above is inscribed. This suggests that the inscription may indeed refer to the Saptarshi Ara site. Other architectural fragments going back to the Solanki period are strewn all around. We note that Stambhatirtha, a name by which this area is generally known, is a toponym found at other elevated sites elsewhere in the region. The thirteenth--century Sanskrit drama Hamirmadmardana suggests that Karnavati was situated on the Sabarmati, thus confirming our archaeological findings. The extent of the ancient settlement eastwards can be traced to Behrampur, where a fine eleventh-century Hanuman image has been discovered. Other old carvings were also found in the Ganganath Mahadeva complex in Behrampur, and also at Chandola.

Karnavati was short-lived, since its existence as a military outpost against the rulers of southern Gujarat, at whose hands Karnadeva eventually suffered defeat, became unnecessary in the succeeding period. While these changed circumstances meant the decline of Karnavati, Ashaval continued to flourish.

Establishment of Ahmadabad

After Ahmad Shah's succession to the throne of the new Sultanate he abandoned the old capital of Anahilvada-Patan, where he evidently felt increasingly unsafe. Since he had supporters at Ashaval, Ahmad shifted his new capital there, and rapidly developed a new royal residential settlement. As it was the practice at this time to call capitals after their royal founders, Ahmedabad was adopted as the city's name. The site chosen for the new palace was the elevated plain of Bhadra on the east bank of the Sabarmati. Originally this had nalas (streamlets) running down to the river on the north and south sides, and uneven land to the east. Original portions of the stone fort erected by Ahmad Shah are still to be seen as a north-south wall between Manek Burj on the south and Nehru Bridge on the north; the Tin Darwaza was probably the easternmost extent. The delimited area is about five hundred metres by eight hundred metres, almost the same size as the earlier royal centre at Anahilvada.

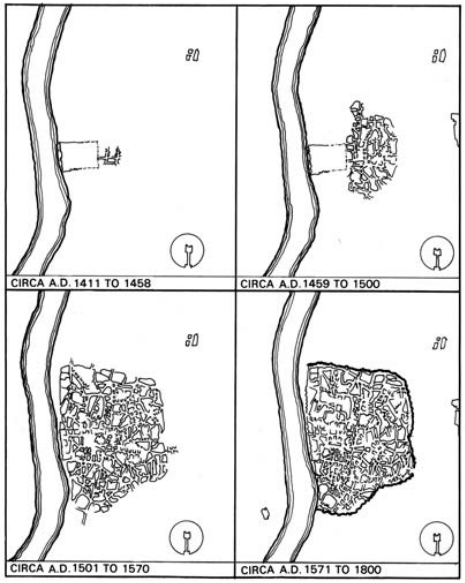
Bhadra was a rectangular zone, with open ground on the east, and a palace complex with a royal mosque on the west. The mosque and parts of the fort wall along the Sabarmati seem to be original foundations; the Tin Darwaza's stonework, for example, is typical of fifteenth-century construction. Most of the other parts of Bhadra have undergone considerable change; the other original monuments are either destroyed or buried to a depth of about two and a half metres.

Around the Bhadra enclosure were scattered other settlements, such as that with Haibat Khan's mosque as its focus, a short distance to the south. Other than the older settlement of Ashaval, suburbs such as Bhanderipur were already in existence. Outside Tin Darwaza the most important area was that of Manek Chowk which included the Jami' Masjid. This became the nucleus of the new market that developed towards the north and east, eventually engulfing older Ashaval. The royal cemetery of Ahmad Shah and his successors was immediately to the east of the Jami' Masjid.

Growth of the City

As first laid out, Ahmedabad extended up to the Jami' Masjid and present-day Ratan Pol to the northeast. Hathi Khana, the royal elephant stables, located in the busy area of Ratan Pol, was an important landmark in this zone, which was on the outskirts of the city. The Golwad, or workers' quarters, was also located here. To the east was Dhikva; the word „dhik" comes from „dhenk", which signifies a system of drawing water for the small gardens cultivated by the Vagharis.

The planning ,of the royal enclosures, the Jami' Masjid and the markets between Manek, Chowk and Tin Darwaza was a significant achievement of the first Sultanate rulers. Since the city was essentially developed as a royal capital, its nucleus was the palace. Around this settled varous merchants, especially dealers in arms and manufacturers of luxury goods. Beyond this inner commercial ring was another zone of markets around



the Jami' Masjid. Toponyms like Dhalgarwada, Salapasa Road, Patwasheri and Danapith, which are still common in this area, indicate the original commercial occupation of the inhabitants.

Once Ahmedabad was firmly established as the Sultanate capital, numerous amirs settled in the neighbourhood. These noblemen generally preferred to live beyond the confines of the city where, at a safe distance, they could develop their own suburban settlements. These settlements were known as Puras; but they were also called after their noble founders. Sometimes they were known with the suffix „ganj", such as Nurganj and Muradganj. Abu'l Fazl noted that Ahmadabad was: „a noble city in a high stage of prosperity situated on the bank of the Sabarmati..., It has two forts outside of which are 360 quarters of a special kind which they call Pura, in which all the requisites of a city are to be found."

In later times, the writer of Mir'at-i Ahmadi quotes an earlier Persian work, Tazkirat-ul Mulka, which describes Usmanpura on the west bank of the Sabarmati. Here there were „at least one thousand shops, and in all of these were traders, artisans, craftsmen, government servants and military people, both Hindu and Muslim, until quarrels and mismanagement ruined them. The present author has observed these Puras in flourishing condition, and stately buildings in them, but now they are in ruins, perhaps they will be soon forgotten, save for a few mosques and gates."

The combined evidence of these different writers indicates that Ahmedabad's Puras were independent settlements that grew up around the royal centre, with their own dynamics of growth, decay and regeneration. In this respect their urban character was that of independent „satellites". To further investigate the history of these Puras we need to examine their surviving mosques, tombs, gates and step-wells. Our toponymical analysis of the names of these Puras reveals the existence of one hundred and forty-three such settlements in the Ahmadabad region.

A further source of information is the Jain temples described by Lalitsagar, an early seventeenth-century writer. This authority suggests that areas such as Kalupur and Sarangpur were at the time also considered suburbs of the city.

The Fifteenth and Sixteenth Centuries

The most important public work in Ahmedabad in the middle of the fifteenth century was the great tank at Kankariya laid out by Qutubuddin. This was built by constructing a dam wall across a natural monsoon stream; upon this dam the later Armenian tombs and the present-day Kankariya gardens were laid out. The stream supplied water to the great polygonal tank which marked the southernmost limit of the capital at this time.

While the growth of Ahmedabad during this period is not well known, we infer that the absorption of parts of older Ashaval was achieved on the east and south, and that the city had expanded in other directions on the north. Beyond this, Bhanderipur formed a distinct suburb in the east.

The reign of Mahmud Begra (1458-1511) was important for the development of the city. Suburbs such as Sarangpur, Kalupur, Dariyapur on the east, and possibly also Shahpur on the north, developed around the original urban nucleus; Tranlimdi separated Kalupur from the main town. These Puras were mainly developed by the amirs of Mahmud and those of his son, Muzaffur II; other Puras were also laid out further away.

Our analysis of place names suggests that by the beginning of the sixteenth century, the extent of Ahmedabad was marked by Bhanderipur, and partly by Sarangpur and Kalupur. By the mid-1520s the area within the semi-circle of the fortification walls was fully occupied by a dense population. The period after about 1535 was not conducive to growth due to political instability.

As to the construction of the city walls, there are several interpretations: the first postulates that they were the work of Ahmad Shah; the second, that they were built by Mahmud Begra. A local Bhavai folk drama, Lalji Maniar No Vesa, dating from about the eighteenth century, presents yet a third interpretation, that the walls were laid out after the attack on the city, possibly in 1582. Our archaeological investigation and examination of the fort wall itself confirm the information given in the drama. It is now clear to the writers that only after the siege of Ahmadabad, and the reconquest of the city by Akbar's armies, was the outer line of the city fort constructed. It is interesting to note that according to this view, the walls were erected by the Mughal conqueror to protect himself against the defeated, but still threatening, local authorities.

The fortifications firmly delimited the peripheries of the main city, and from this time onwards the urban Dattem was firmly established. The nucleus of the city continued to be Bhadra and Manek Chowk, which constituted the twin political and commercial centres of the capital. The growth of Ahmadabad from its initial rectangular enclosure into its distinctive semi-circular shape known as Dhanukudil, „curved like a bow", is a phenomenon known also in other cities, such as Surat.

As a result of the fortifications, the road system developed rapidly; this is revealed by the Khanjehan, Raikhad, Ganesh Bari and Khanpur Darwazas which lead down towards the Sabarmati. The Delhi and Jamalpur Darwazas indicate the major north-south axis; the Mudia, Raipur, Shahpur and Dariyapur Darwazas formed a subsidiary network; the Kalupur, Sarangpur and Astodia Darwazas opened to the east. While the city grew by stages, and was never a planned effort at any single moment, the different Puras and internal areas continued to develop independently.

The Seventeenth and Eighteenth Centuries

During this period of relative political stability, the fortified town experienced a growth in prosperity. Bhadra was extensively repaired, and its fortifications were renovated. The modern gate

and the alignments on the south, east and north were altered, and that on the south side was repaired. Manek Burj had a new use as a head-water for the water channels for Azam Khan's Caravanserai and possibly the Karanj. Gardens and hamams were laid out here, while new buildings were erected elsewhere in the city.

One of the outstanding monuments of Jehangir's period was a palace constructed in 1618 in Shahibagh as famine relief work; another structure dating from 1637 is the sarai of Azam Khan in Bhadra. Our toponymical investigation has revealed that present-day Khadia became Akbarpura; this name survived up to the nineteenth century, but is now little known. Although Ahmadabad remained merely a provincial town under the Mughals, it was well maintained. European travellers of the period, such as Sir Thomas Roe and Thevenot, were impressed by the size and arrangement of its facilities.

The next century, however, witnessed a decline due to the weakening of Mughal authority, and many of the suburbs and even parts of the inner city were abandoned and ruined, as noted by the writer of the Mir'at-i Ahmadi. The Maratha conquest of Ahmadabad in 1757 marks the beginning of the Gaekwad-

Peshwa era. These rulers did not contribute to the expansion of the city as did their Mughal predecessors; they followed their own policy of erecting temples and housing themselves and their retinues in Bhadra. They converted older buildings to new uses, and repaired some earlier religious structures. The Hajira-ni and Hamam-ni Pols, both in Khadia, and other localities in the walled city were developed at this time.

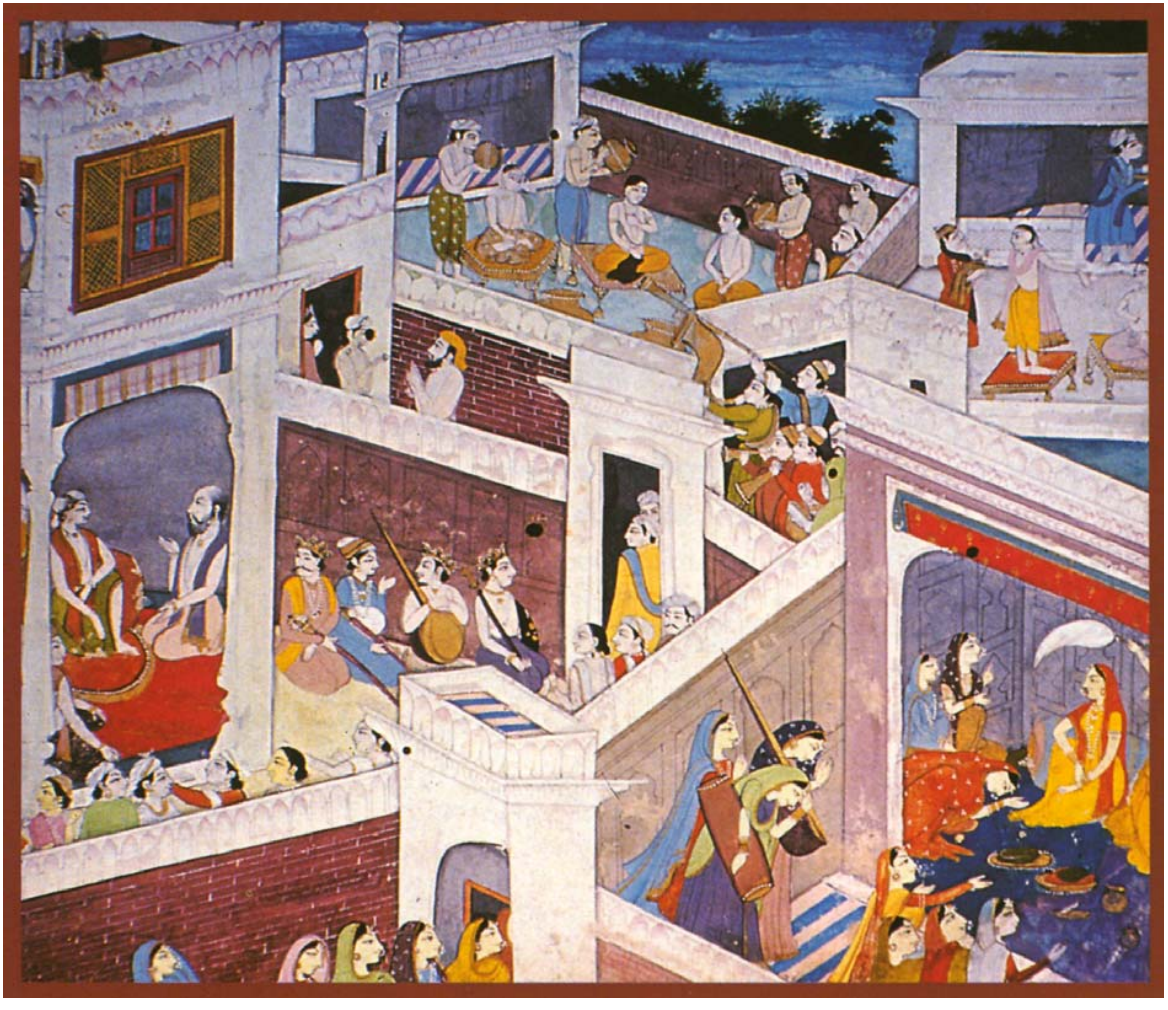
The Modern Era

In 1817 the British ousted the Marathas from Ahmedabad. With its basic goal of economic exploitation, the East India Company developed the city into the military and administrative centre of the region. Bhadra was transformed, and structures were also altered; several churches were erected. The most substantial contribution of the British was the establishment in 1830 of the military headquarters northeast of the city. The cantonment was located on the fringe of Asarva. In 1861 the railway was laid near Kalupur as a development of transport facilities.

The immediate effect on the city was the opening up of roads leading to the railway station. For this purpose, the Prem and Panchkuva Darwazas were created by piercing the fortification walls (in 1864 and 1871, respectively). The development of railway offices, staff quarters and other facilities in this zone dates also from this period. The next important effect on traffic was the concentration of wholesale markets near the station. The growth of mechanized industries and workers' quarters in the eastern suburbs transformed this area into an industrial zone. The first textile mill was established in 1861; many more appeared soon after. Other changes in the city took place on the western bank of the Sabarmati. The building of the wooden bridge, later replaced by the Ellis Bridge after 1875, encouraged a steady flow of traffic, westwards. Residential developments and educational institutions, in particular; were established in this area.

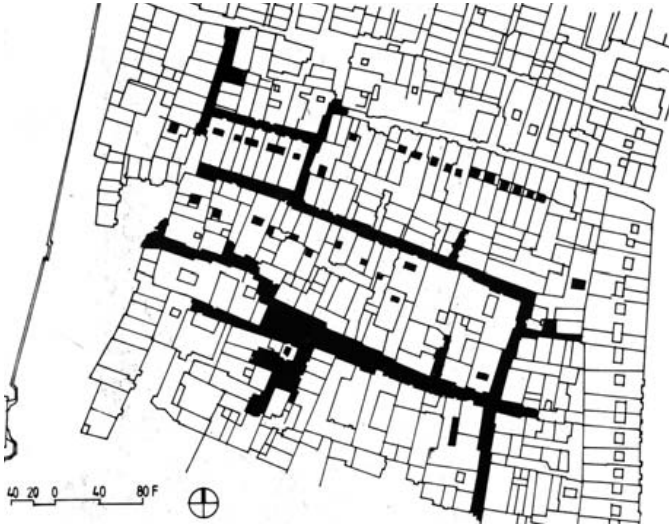
After the First World War, there was an accelenition of suburban development in Ahmedabad.

The old walls were mostly pulled down after 1922, and ,thereafter the city was no longer constrained in its outward growth. After Independence, industrial and residential growth has increased phenomenally. The construction of multi-storeyed apartments and high-rise office buildings in concrete, brick, steel and glass has now dramatically changed the skyline. Such large-scale activity is accompanied by increasing clusters of dense slums in low-lying and open areas. At the present moment Ahmedabad is expanding rapidly as it once did in the fifteenth century, but with the difference that overcrowding and uncontrolled growth has created serious problems of environmental pollution. It is to be hoped that future planning will recognize the historical importance of the city and the legacy that still survives in the form of traditional residential quarters as well as the monuments themselves.



Pols / Havelis

in: Professur Wolfgang Schett, ETH Zürich, *Bombay-Ahmedabad*, Seminarreisereader HS 2008, Zürich, 2008, S. 66-77.



After the communal riots of 1714, Ahmedabad's population sought greater security by living together in closely associated groups within pols. The typical pol is a small residential unit consisting of a single street with a group of houses. It is a kind of micro-neighbourhood, usually protected by a gate at the entrance. These pols developed further as the process of densification continued; today they are a special feature of old Ahmedabad. Traditionally, the main considerations for living within a particular pol were the religion and caste of the inhabitants. Compact housing clusters with dead-end streets formed distinctive residential patterns. The pols were even self-sustainable over a period of time since each house had its own storage for water and food grain, a tradition that continues today.

The geometric form of the pols varies throughout Ahmedabad. There are areas where the pol has a definite rectilinear pattern, but in most parts of the city an organic pattern prevails. As far as scale is concerned a strong consistency can be observed. It is safe to conclude that the street of the pol has been the most dominant form of community space in Ahmedabad throughout the centuries. Some of the oldest pols are Mhurat Pol, Mandvi-ni-Pol and Lakha Patel-ni-Pol, all concentrated in the central part of the walled city. Although these pols are becoming congested due to overpopulation, we may still discern a sense of pride in their residents.

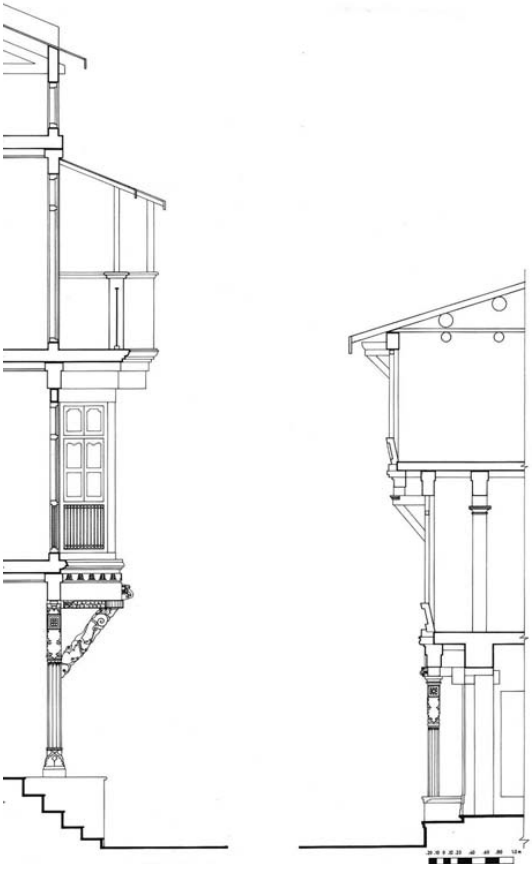
House Form

While the layout of most houses in old Ahmedabad conforms to a general pattern, we can see how they have been adapted to different circumstances. Typologically, most houses are deep, with a narrow frontage that opens onto a narrow street. Along its longer sides, the house shares walls with the adjoining properties. Normally, the house occupies the entire plot of land available to the owner. This has resulted in a very densely built environment, made somewhat „porous" by the streets and the courtyards within the houses. This has added greater importance and meaning to the courtyards, also to the thresholds connecting the houses with the streets. A threshold is the transition between inside and outside, and is therefore elaborate both in conception and in detail, though small in scale. This element is invariably accompanied by a platform known as the otla. Depending upon the community, the otla can be an extremely busy area where several activities are carried on, or it may function just as an entrance, as can be observed in the houses of certain Muslim communities.

The major components of Ahmedabad's traditional houses are identified by their particular names rather than by their functional allocations. There is no „living room", „dining room" or „bedroom" as such. The nomenclature is basically Gujarati, the local language, and is common for the houses of all three major communities. Naming these elements begins at the street level with the otla. This entrance platform often has a row of columns supporting a facade which projects outwards as one moves upwards to the different floors. The otla is like a preamble to the actual threshold, which is called the umro. Besides accommodating the extended activities of the house, the otla has great ritual significance for Hindus since religious activities take place there. However, when a Muslim family uses a similar house, the otla loses its significance because the activities extending outwards from the house are limited due to notions of privacy.

The front area of the house is a reception space, a kind of sitting room sometimes called the baithak. The inner part of the house, the courtyard or chowk, is the most important element. It is this central open space that controls all the other spaces of the house since these are usually built around it. A slight change in level may signify the transition between the chowk and its surrounding areas. Not only are the social and family needs satisfied by the chowk, this part of the house also responds to climatic needs. Since it signifies the outside realm within the confines of the house, the facades that surround the chowk receive particular attention; their decorated elements are often a showpiece for the family. The verandah-like space called the parasal that often surrounds the chowk is also used as another zone of family activities. Among the rooms of lesser importance is the ordo used both for storage and for sleeping. House roofs are mostly sloping, but those portions which are flat (agasi) are used for sleeping outside during the summer nights, and also for drying and spreading out articles in the open.

While there are no major differences in the forms of houses used by various community and caste groups, certain details do vary. Muslim houses, in particular, have been somewhat improvised and adjusted. Two major differences occur due to the need for privacy and to the different eating habits that influence the plan organization and space utilization of the house. Whereas cooking itself is given a lot of importance in Hindu and Jain houses, resulting in more elaborate and often larger kitchens, a typical Muslim house, even in wealthier households, has a smaller and simpler kitchen. Dining is an important, almost ritualistic, activity in Muslim homes, resulting in more space for eating. Privacy for women has created two distinct zones in Muslim residences. This results in a kind of living-entrance area in the front of the house where visitors are welcome; for the family and closer relatives, though, a living room at the rear of the house is more commonly used. In all houses, irrespective of community type, the stairway is invariably close to the entrance.



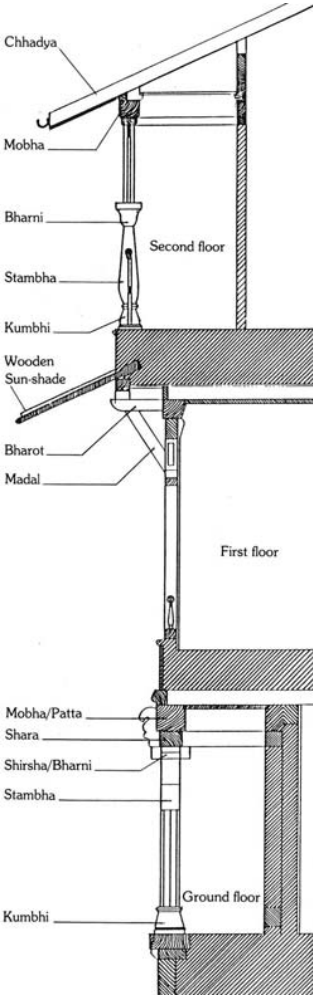
Statik und tragende Elemente

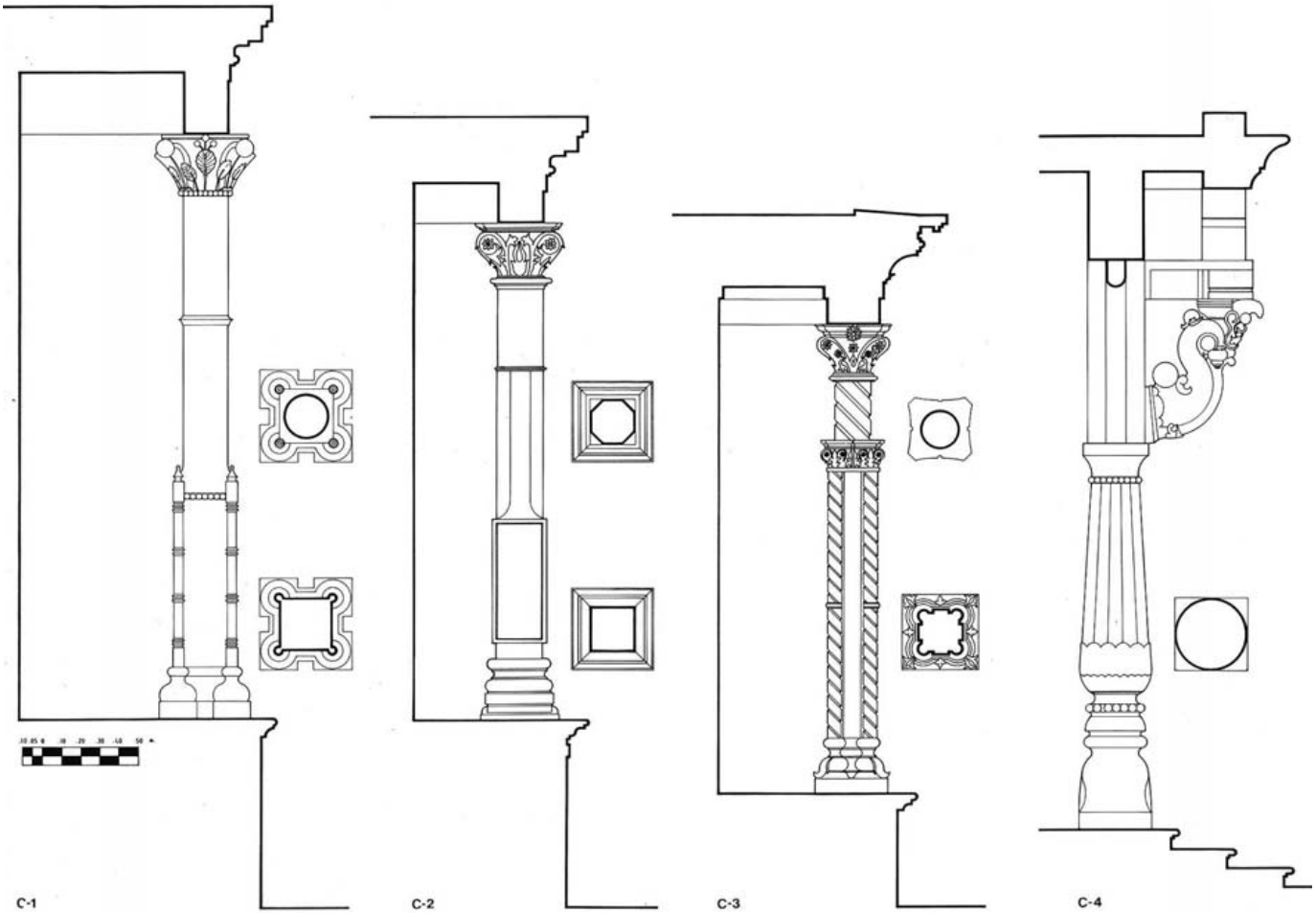
Die mehrgeschossigen Stadthäuser waren bis in die Zeit nach 1900 alle nach ähnlichen Konstruktionsmustern erbaut:
Tragende Bestandteile waren hauptsächlich massive Holzständer. Die Bereiche zwischen ihnen waren durch tragende Backstein- oder nichttragende Holzwände ausgefacht. In der ländlichen Architektur mit meist nur einem Geschoss nahmen die aus dicken Ästen oder dünneren Baumstämmen bestehenden Ständer das Dachgewicht auf. Ausfachungen auf dem Land sind aus Lehm, Lehmziegeln oder aus mit Lehm verstrichenem Rautengeflecht.
Die in der Gujarati-Architektur in verschiedenem Zusammenhang üblichen Säulen zeigen die Grundidee der Gewichtsübertragung: Ziegel liegen auf Dachsparren bzw. Platten liegen auf Bodenbalken, auf Bindern, welche das Gewicht auf Balkenlager und von diesen auf Kapitelle bzw. Säulen ableiten. Auskragende Bauteile, oft über die gesamte Länge der Strassenfassade laufend, werden durch einfache oder reich geschnitzte Streben auf die tragenden Ständer abgestützt. Dabei fällt auf, wie grosszügig diese Stützen dimensioniert sind bzw. wieviele pro Laufmeter vorhanden sind. Der Plan zeigt zwei Schnitte durch die Tragkonstruktion einer Aussenwand: die «traditionelle» um 1700, die auf dem Plan «transitional» genannte, der Üebergangszeit zugehörige, um 1900. Die traditionelle Variante ist etwas schlichter, die Holzschnitzereien weniger üppig. Und doch ist das Grundmodell beibehalten worden: ein bodentragender Balken liegt auf der tragenden Säule auskragend auf und bietet dem oberen Stockwerk damit frei nutzbaren Raum. Der Balken wird durch eine schlichte Strebe auf die tragende Säule abgestützt. Beim späteren Haus erfolgt die Abstützung der zwei auskragenden Geschosse erst im Erdgeschoss.

Schnitte durch die Aussenwand
links: ‚transitional'
rechts: ‚traditional'

Säulenformen

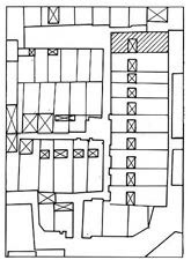
Die auf der gegenüberliegenden Seite abgebildeten Säulen stammen aus verschiedenen Epochen:
C-4 ist eine traditionelle Säule aus dem 18. Jahrhundert. Sie besitzt kein Kapitell, stützt aber durch eine fein geschnitzte, massive Strebe den vorkragenden Teil des Obergeschosses. Die drei Säulen C-1, C-2, C-3 sind von kolonialer Formensprache beeinflusst und zeigen sogar klassizistische Formen. Säule C-1 ist die klassische indisch-islamische Säule aus der späten Maratha-Zeit, also aus dem Anfang des 19. Jahrhunderts. Sie stützt eine grössere Geschosshöhe ab als die früheren und späteren Säulen. In der Stadt Ahmedabad und in ganz Gujarat ist diese Säule weniger verbreitet als in andern Teilen Indiens.
C-2 und C-3 bringen im Zuge der Angleichung an den herrschenden europäischen Geschmack klassizistische Grundformen, üppige Kapitelle und eine neuartige Oberflächenbehandlung.
Erst das Aufkommen der zentralsymmetrischen Grundrisse und der Materialien des 20. Jahrhun-derts, wie Doppel-T-Träger aus Eisen und vorgespannte Betonträger, veränderten das Bild der tragenden Säulen vollständig.

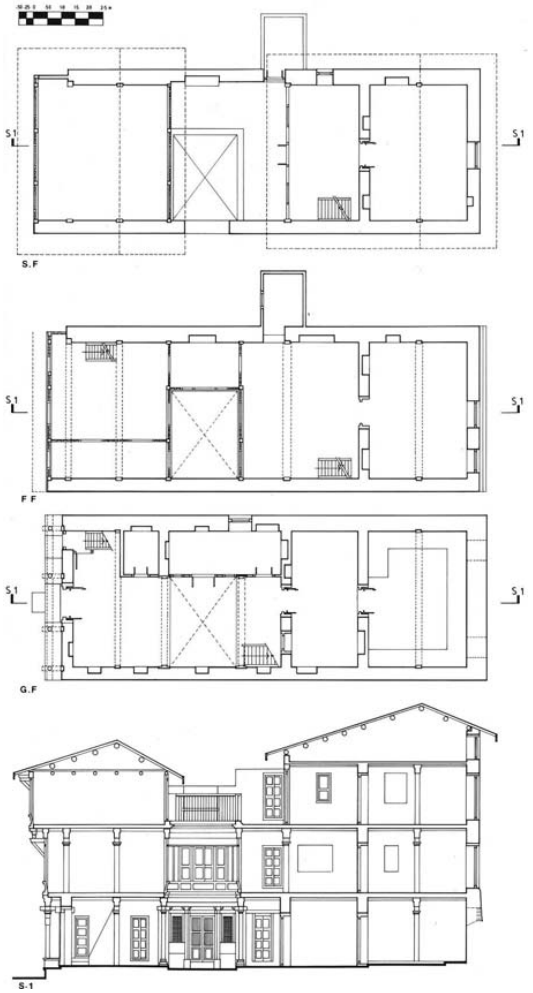



C-1
C-2
C-3
C-4

Bsp.1: Moti Rangila Pol

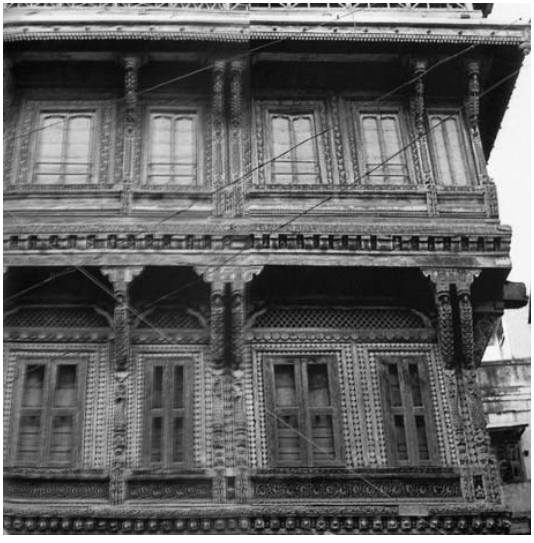
Häuser wie dasjenige gegenüber wurden in Ahmedabad bis in die 1920er Jahre hinein gebaut. Dieses Haus gehört zum Quartier Shahpur und ist nicht älter als 150 Jahre. Es steht in der Moti Rangila Gasse. Das Wort «moti» heisst «von höherem Status», was sich in den ausgearbeiteten Details im Hausbau zeigt.
Der Stall und Vorratsraum wurde hier zum Zweiten Hof, von draussen durch die Haustüre abgegrenzt und innen gegen den Innenhof hin offen. Vom Innenhof aus ist die Küche und das Wassertopfregal Panihara zu erreichen. In einem Winkel ist der Hausgott untergebracht, statt nur in einer Nische. Die innere Veranda, die auf den Innenhof hinausgeht, ist in diesem Beispiel viel reichhaltiger ausgestattet. Sie lebt von der Unterscheidung zwischen tragenden und nichttragenden Konstruktionshölzern. Wie üblich ist der Hausteil zur Gasse hin niedriger als der hintere, wobei dieser über den drei Vollgeschossen einen Dachboden mit immerhin zwei Metern lichter (Giebel)Höhe aufweist.
Durch die Lage der verschiedenen Treppen kann das Haus je nach (wechselnden) Bedürfnissen von verschiedenen Familien bzw. Mietern bewohnt werden; welche Räume zu einer Einheit zusammengefasst werden, richtet sich im konkreten Fall von mehreren Miets- bzw. Benutzerparteien nach den Bedürfnissen bzw. den getroffenen Abmachungen.
Solche Häuser in ihren Gassen bzw. in ihrer Häusergruppe bieten kleinräumiges Leben, kleinmassstäbliche Formen, enge und schattige Gassenräume, Kontinuität und Gleichförmigkeit der architektonischen Formen und gleichzeitig überraschende Erweiterungen des Gassenraums, die kleine Plätze formen, sie bieten eine grosse Palette verschiedener öffentlicher, halbprivater und privater Nutzungen.





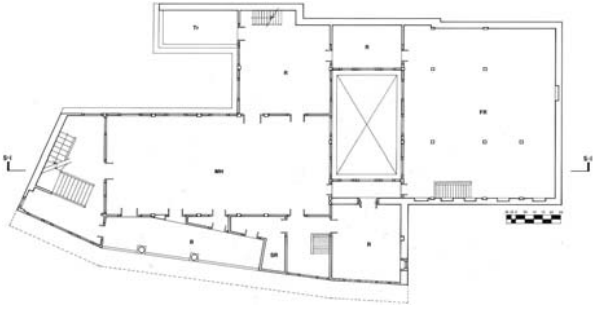
2. Obergeschoss
1.Obergeschoss
Erdgeschoss
Schnitt

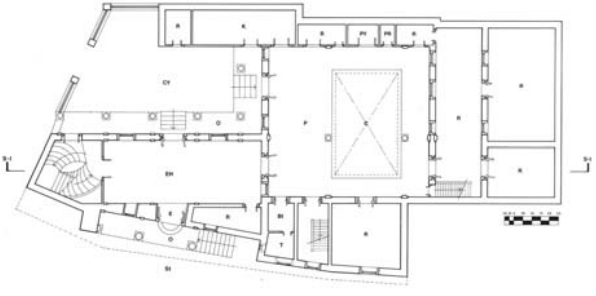
Bsp.2: Sankdi Sheri



Die traditionellen Stadthäuser reicher Kaufleute, Beamter und anderer wohlhabender Familien heissen Haveli und rangieren statusmässig gerade unterhalb eines kleinen Prinzenpalasts. Diese städtischen Wohnhäuser sind grundsätzlich gross an Volumen, stehen manchmal frei oder sind nur einseitig angebaut und weisen reich geschnitztes Holzwerk auf. Ein Haveli ist ein Prestigebau und hat Teil am Eindruck, den eine Familie oder eine Gemeinschaft gegen aussen machen will.
Diese Art Gebäude könnten als eigener Haus-Typ angesehen werden, der aus dem Pol-Haus entwickelt worden ist. Dazugekommen ist ein grosser Innenhof (C) mit der Möglichkeit, ihn allseitig mit Räumen zu umgeben. Das ganze Haus steht auf einem weit höheren Sockel: der Sockel zum an der Strasse Sitzen hat seine eigentliche Funktion verloren und dient nur der Repräsentation. Seine dem hohen Status angepasste Funktion hat die Eingangshalle (EH) übernommen, Dem Wohlstand angepasst, sind alle Dekorationen reicher ausgeführt; bei vielen aber nicht allen - Gebäuden dieses Typs kommt an der Fassade im zweiten Obergeschoss ein Balkon hinzu.
Die ‚traditionellen' Havelis hatten bescheidenere Vorgänger; erst seit Beginn der Indo-Islamischen Zeit kennt man die Art Havelis, wie sie heute in den Städten anzutreffen sind.

Die Pläne zeigen ein Haveli einer angesehenen Ahmedabader Familie, das mitten in der Altstadt gegenüber einer Reihe ähnlicher, wenn auch weniger reicher Gebäude liegt, die alle innert 25 Jahren entstanden waren. Das abgebildete Haus stammt aus dem Ende des 19. Jahrhunderts und steht wohl an der Stelle eines Vorgängerbaus. Heute wird das Gebäude teilweise als Schule benutzt.
Die Mischung traditioneller (hoher Sockel, hohe Säulen, typische Gujarati-Türe) und importierter Fassadenelemente (durchgehender Balkon im 2.OG, Balkongeländer, Säulenformen) macht das Haus zu einem guten Beispiel der Übergangszeit.





Der Grundriss respektiert die Tradition bis auf die oben erwähnte Eingangshalle (EH). Das Gebäude besitzt einen Innenhof (e), umgeben von einer umlaufenden Veranda, und einen Zweiten Innenhof (P). Daran schliesst der erste (Familien)-Raum (R) und der unterteilte private Wohnraum (R) an. Südlich des Innenhofs liegen eine Reihe kleiner Räume: die in den Service-Hof erweiterte Küche (K), Vorratsräume (R), der Puja-Raum (PR), der dem täglichen Morgengebet dient, sowie der Raum, in welchem das Wassertopfgestell (PY) steht. Diesen kleinen Serviceräumen gegenüber liegen ein Wohnraum (R), ein Bad (Bt) und eine Toilette (T) im europäischen Stil. Die Eingangshalle (EH) ist Empfangsraum und Verteiler: Familienmitglieder und Verwandte dürfen durch die Türe in den Innenhof (P&C) eintreten, aussenstehende Gäste und Geschäftsfreunde werden über die innere Freitreppe in den formellen Empfangsraum im 1.OG gebeten.

Das 1. Obergeschoss zeigt die formelle Empfangshalle (MH) mit kleinen Nebenräumen sowie einen grossen Privatraum des Hauseigentümers an der Rückwand des Hauses samt eigener kleiner Terrasse (Tr) über der Küche. Von der Freitreppe aus kann bei Bedarf die formelle Empfangshalle (MH) via Balkon (B), Lagerraum (SR) und weiteren Privatraum umgangen werden. So stösst man in den schmalen Korridor vor, der die Empfangshalle mit dem riesigen (zeremoniellen) Familienraum (FR) verbindet.

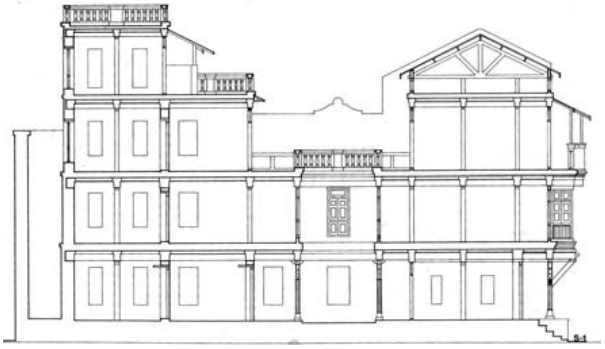
Das 2. OG zeigt sehr deutlich die Trennung in halböffentlichen und privaten Teil: Im halböffentlichen gruppieren sich Räume (R) - früher wohl Gästeräume - um die beiden Hallen. Davon durch die Terrasse (Tr) getrennt lag eine weitere, der Familie vorbehaltene Halle mit darüber stehendem Dachboden (At). So werden die Terrassen, zu raumbildenden und -teilenden Formen.

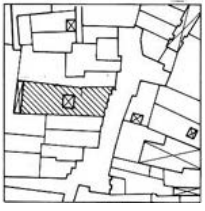
1.Obergeschoss
Erdgeschoss
Schnitt

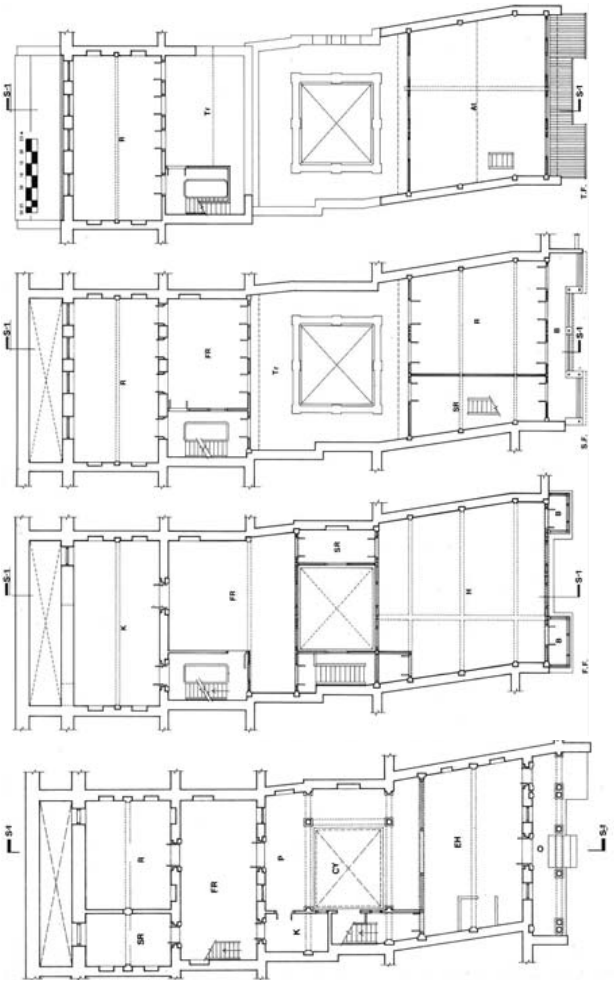
Bsp.3: Surdas Sheth's Pol

Das auf den Plänen dargestellte Haus ist ein typisches Beispiel für die Verschmelzung der traditionellen und der kolonialen Architektur. Es wurde zwischen 1900 und 1930 erbaut.

Die Grundrisse folgen eng dem typischen Muster; Balkone und Terrassengeländer in den oberen Stockwerken weisen auf den kolonialen Einfluss. Das Haus hat einen Vorgängerbau ersetzt; deshalb wurde der Grundriss zwischen die umliegenden Gebäude eingepasst. Zurzeit wird das Erdgeschoss von einem Mieter bzw. seiner Familie genutzt, während die oberen Stockwerke von der Eigentümerfamilie bewohnt werden. Daher sind auch zwei Küchen (im EG und im 1. OG) vorhanden. Bemerkenswert sind die sorgfältigen und grosszügigen Dekorationen sowie das Holzschnitzwerk.

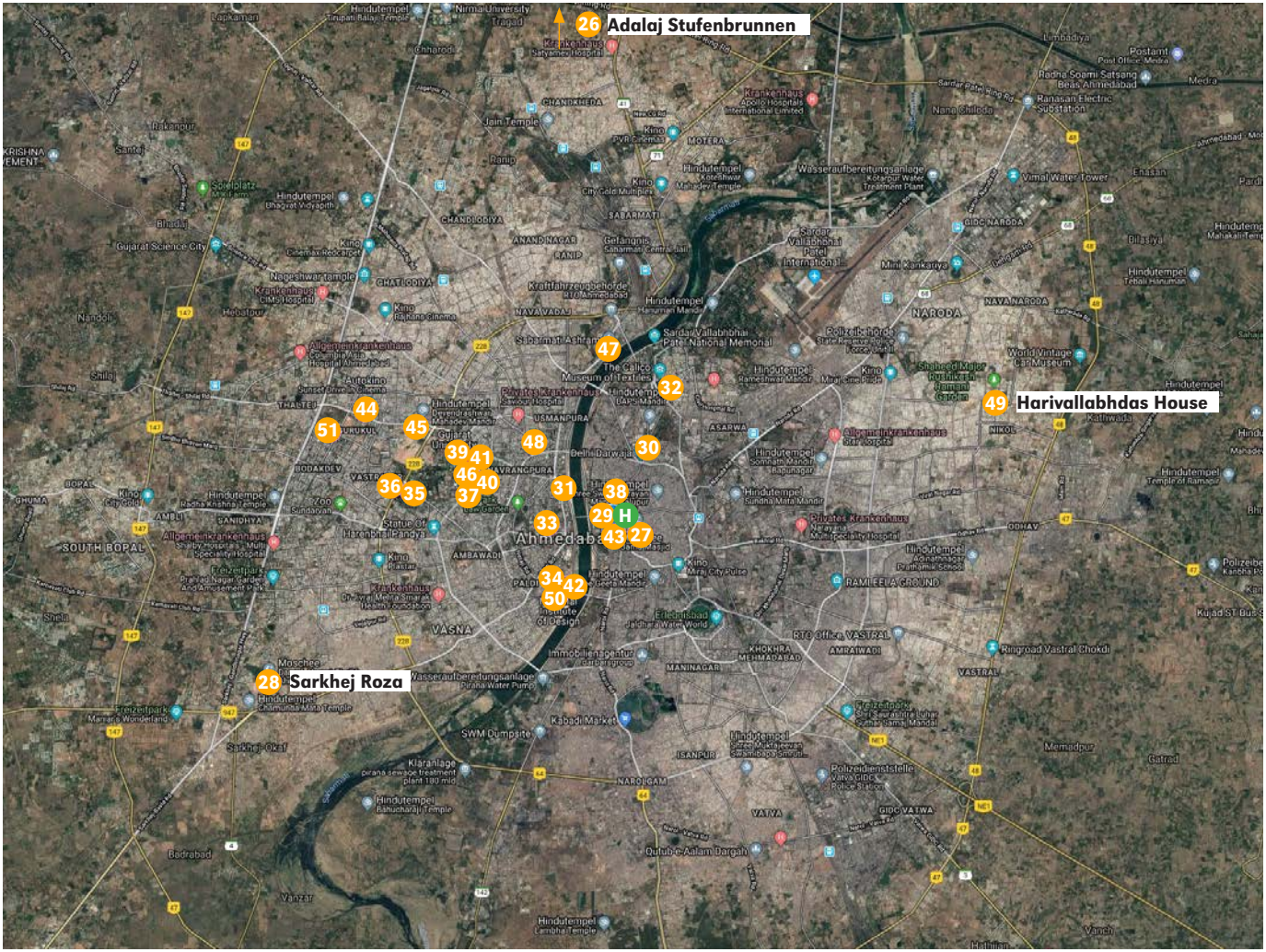






3. Obergeschoss
2. Obergeschoss
1.Obergeschoss
Erdgeschoss

AHMEDABAD


26 Adalaj Stufenbrunnen
49 Harivallabhdas House
28 Sarkhej Roza
Ahmedabad
SOUTH BOPAL
VASNA
NARODA
NAVA NARODA
RAMLEELA GROUND
Sardar Vallabhbhai Patel International
Sardar Vallabhbhai Patel National Memorial
Statue Of Harekrishna Mehtaya
Kankaria Lake
Gujarat Science City
Sabarmati Ashram
Kite Museum
Vimal Water Tower
RTO Office VASTRAL
Ringroad Vastral Chokdi
Polizeidienststelle
Police Station
Hindutempel
Moschee
Kino
Krankenhaus
Freizeitpark
Erlebnisbad
Wasseraufbereitungsanlage
Kläranlage
SWM Dumpsite
Kabadi Market
Qutube-Aalam Dargah
Immobilienagentur
Private Krankenhaus
Allgemeinkrankenhaus
Statue Of Unity
Shaheed Major Mukund Varadarajan Bagicha
Sunday Mata Mandir
Somnath Mandir
Rajnagar
Ranchhodji Mandir
Hanuman Mandir
Ramdevpir Mandir
Swaminarayan Mandir
Bahucharaji Temple
Ganesha Temple
Chamunda Mata Temple
Tirupati Balaji Temple
Jain Temple
Sunsweep Water Park
Sunset Grove Resorts
Sahyog Hospital
Apollo Hospitals International Limited
Satsang Vidyapith
Sabarmati Ashram
Sardar Patel Memorial Museum
Sidi Saiyyed Mosque
Jhulta Minar
Bhadra Fort
Teen Darwaja
Jama Masjid
Rani Sipri Mosque
Rani Sipri Tomb
Rani Sipri Garden
Sidi Bashir Mosque
Sidi Bashir Tomb
Sidi Bashir Garden
Siddi Sayyed Mosque
Siddi Sayyed Tomb
Siddi Sayyed Garden
Hathi Singh Jain Temple
Dada Hari Vav
Adalaj Vav
Mata Bhavani Vav
Rudabai Stepwell
Dada Harir Vav
Sakarwadi Vav
Kamala Nehru Park
Law Garden
Gandhi Ashram
Sabarmati Riverfront
Vastrapur Lake
Thaltej Lake
Chandlodiya Lake
Kankaria Lake
Vasna Barrage
Sabarmati River
Kharicut Canal
Narmada Canal
Vautha
Sanand
Chandlodiya
Thaltej
Vastrapur
Bodakdev
Ambawadi
Paldi
Navrangpura
Usmanpura
Ashram Road
Relief Road
Ellis Bridge
Nehru Bridge
Gandhi Bridge
Subhash Bridge
Vallabh Sadan
Gujarat University
Nirma University
Science City Road
Sarkhej-Gandhinagar Highway
Ahmedabad-Mehsana Highway
Ahmedabad-Vadodara Expressway
Ahmedabad-Dholka Road
Ahmedabad-Viramgam Road
Ahmedabad-Kalol Road
Ahmedabad-Nadiad Road
Ahmedabad-Kheda Road
Ahmedabad-Mahemdavad Road
Ahmedabad-Sanand Road
Ahmedabad-Bavla Road
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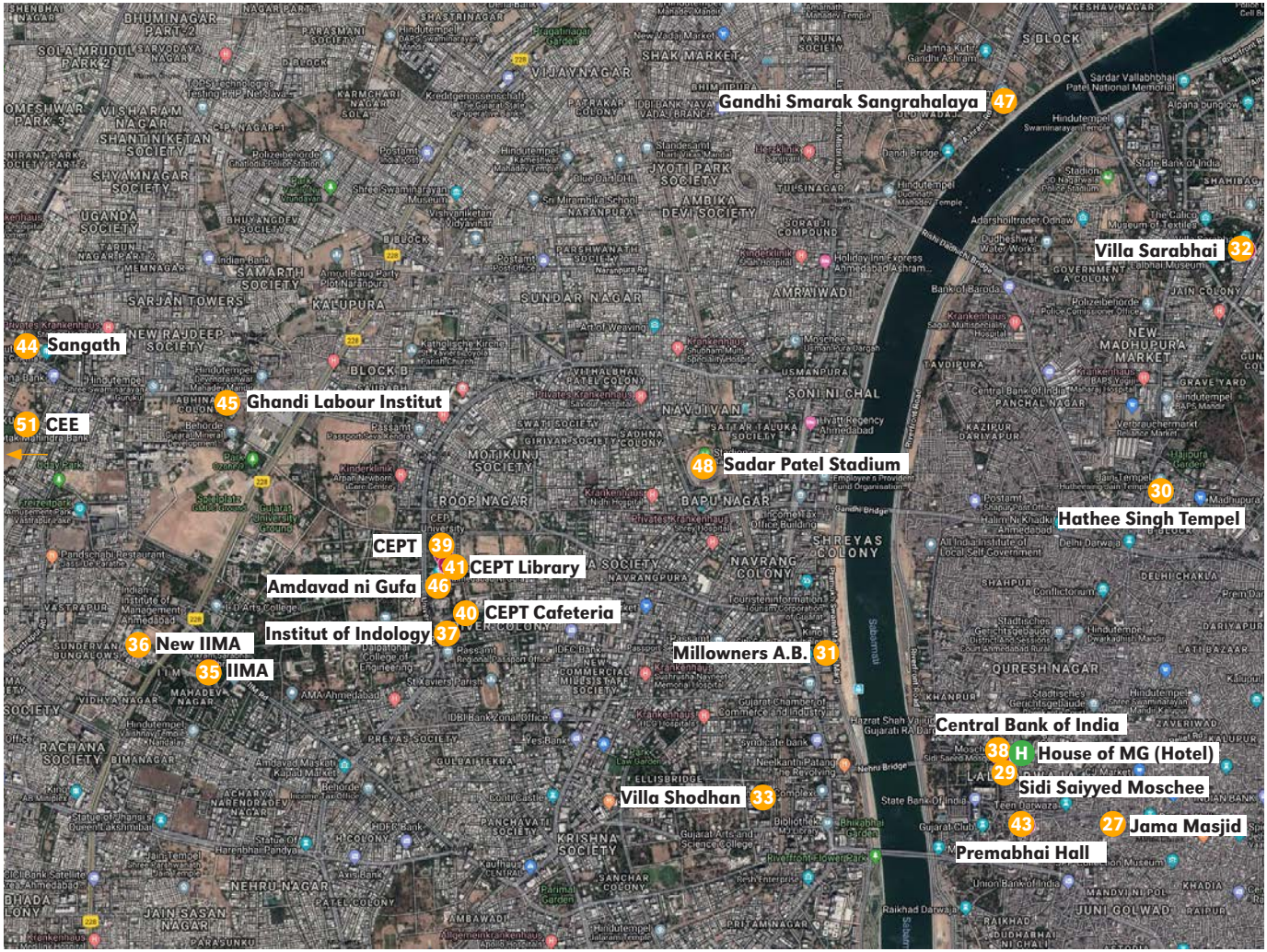
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36 New IIMA
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48 Sadar Patel Stadium
Gandhi Smarak Sangrahalaya 47
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30 Hathee Singh Tempel
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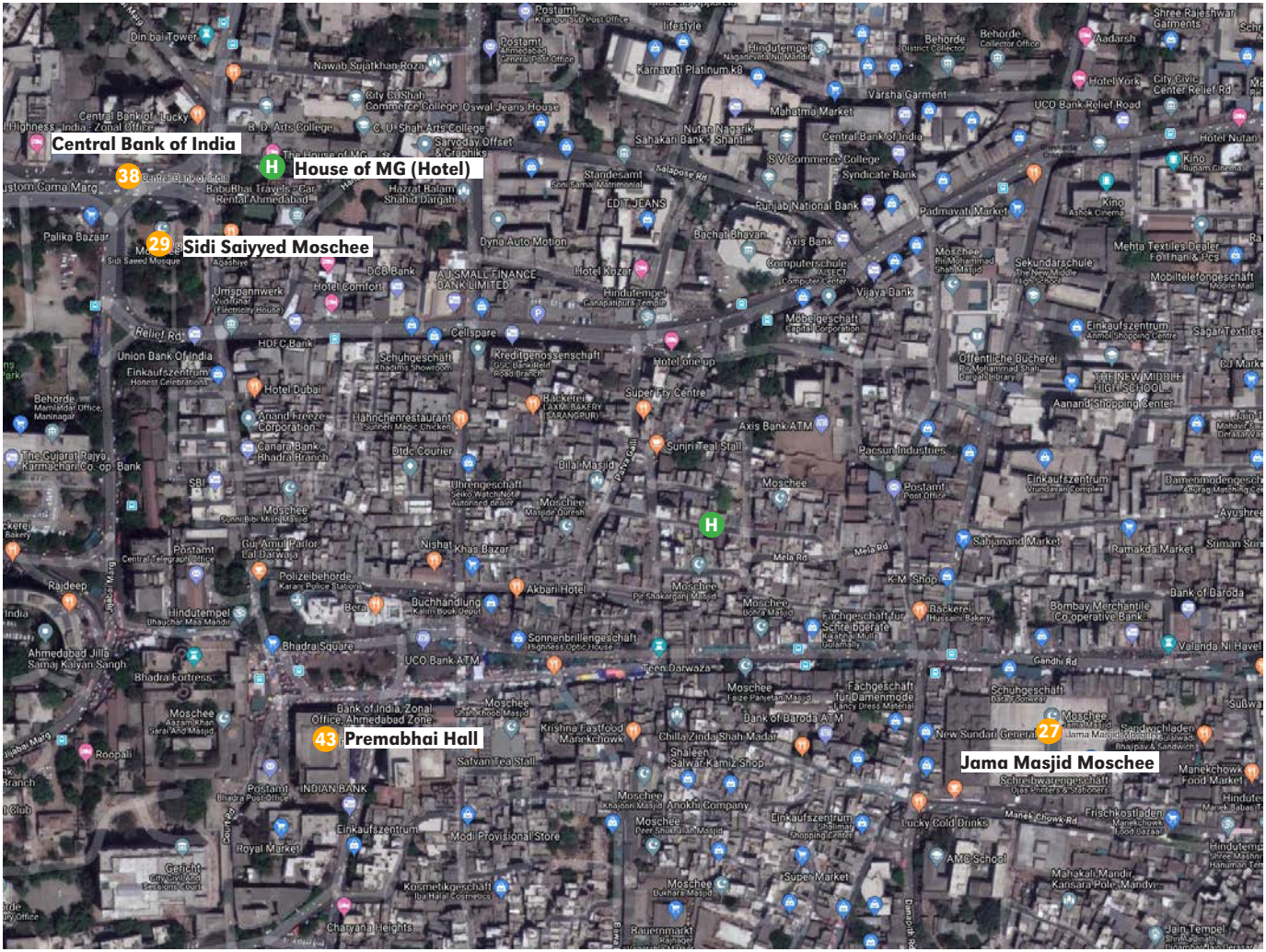
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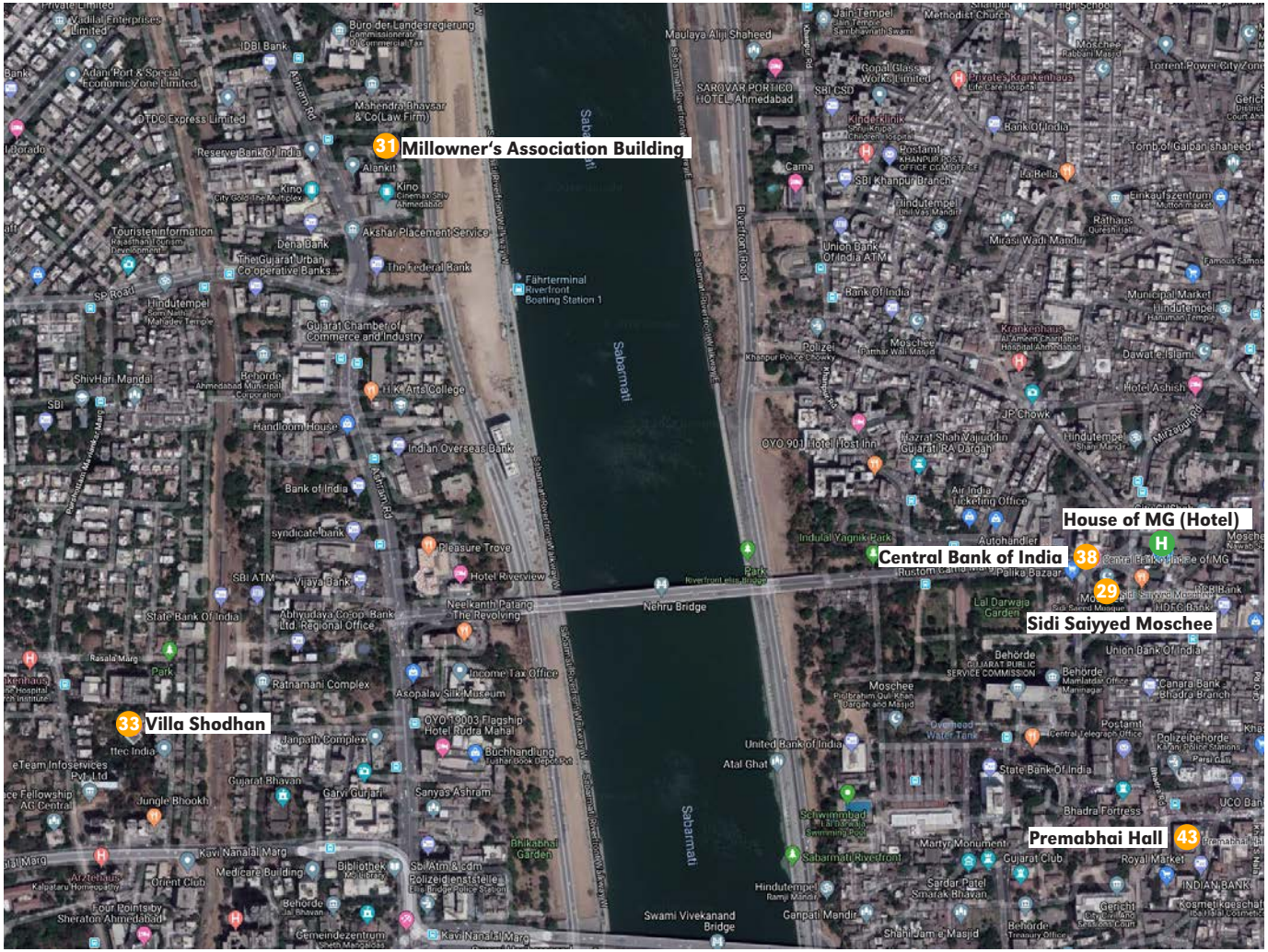
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The Federal Bank
Gujarat Chamber of Commerce and Industry
H.K. Arts College
Handloom House
Indian Overseas Bank
Bank of India
Pleasure Trove
Hotel Riverview
Neelkanth Patang The Revolving
Income Tax Office
Ratnamani Complex
Akopalav Silk Museum
Janpath Complex
Gujarat Bhavan
Sanyas Ashram
Bhikabhai Garden
Kavi Nanalal Marg
Swami Vivekanand Bridge
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Sardar Patel Smarak Bhavan
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Martyr Monument
Sabarmati Riverfront
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United Bank of India
State Bank Of India
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Union Bank Of India
Canara Bank - Bhadra Branch
Sidi Saiyyed Mosque
Lal Darwaja Garden
Palika Bazaar
Jain Temple
Methodist Church
Maulaya Alji Shaheed
SAROVAR PORTICO HOTEL Ahmedabad
Gopal Glass Works Limited
Bank Of India
Tomb of Gaipan shaheed
SBI Khanpur Branch
Union Bank Of India ATM
Mirasi Wadi Mandir
Municipal Market
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JP Chowk
Hazrat Shah Vajiuddin Gujarati RA Dargah
Air India Ticketing Office
Autohandler
Indulal Yagnik Park
Behörde Gujarat Public Service Commission
Behörde Mamlatdar Office
Moschee
Overhead Water Tank
Postamt
Polizeibehörde
Schwimmbad
Premabhai Hall
Royal Market
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Gujarat
Behörde Treasury Office
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Adani Port & Special Economic Zone Limited
DTDC Express Limited
IDBI Bank
Mahendra Bhavsar & Co(Law Firm)
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State Bank Of India
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Jungle Bhookh
Gujarat Bhavan
Garvi Gurjari
Kavi Nanalal Marg
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Hindutempel
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Kranckenhaus
Dawat e Islami
Polizei
Khanpur Police Chowky
Moschee
Pathar Wali Masjid
OYO 9011 Hotel Host Inn
OYO 10003 Flagship Hotel Rudra Mahal
Buchhandlung
Tushar Book Depot Pvt
Moschee
Pirlbrahim Qui Khan Dargah and Masjid
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Kalupur Railway Station Yard
Kalupur Railway Station Goods Shed
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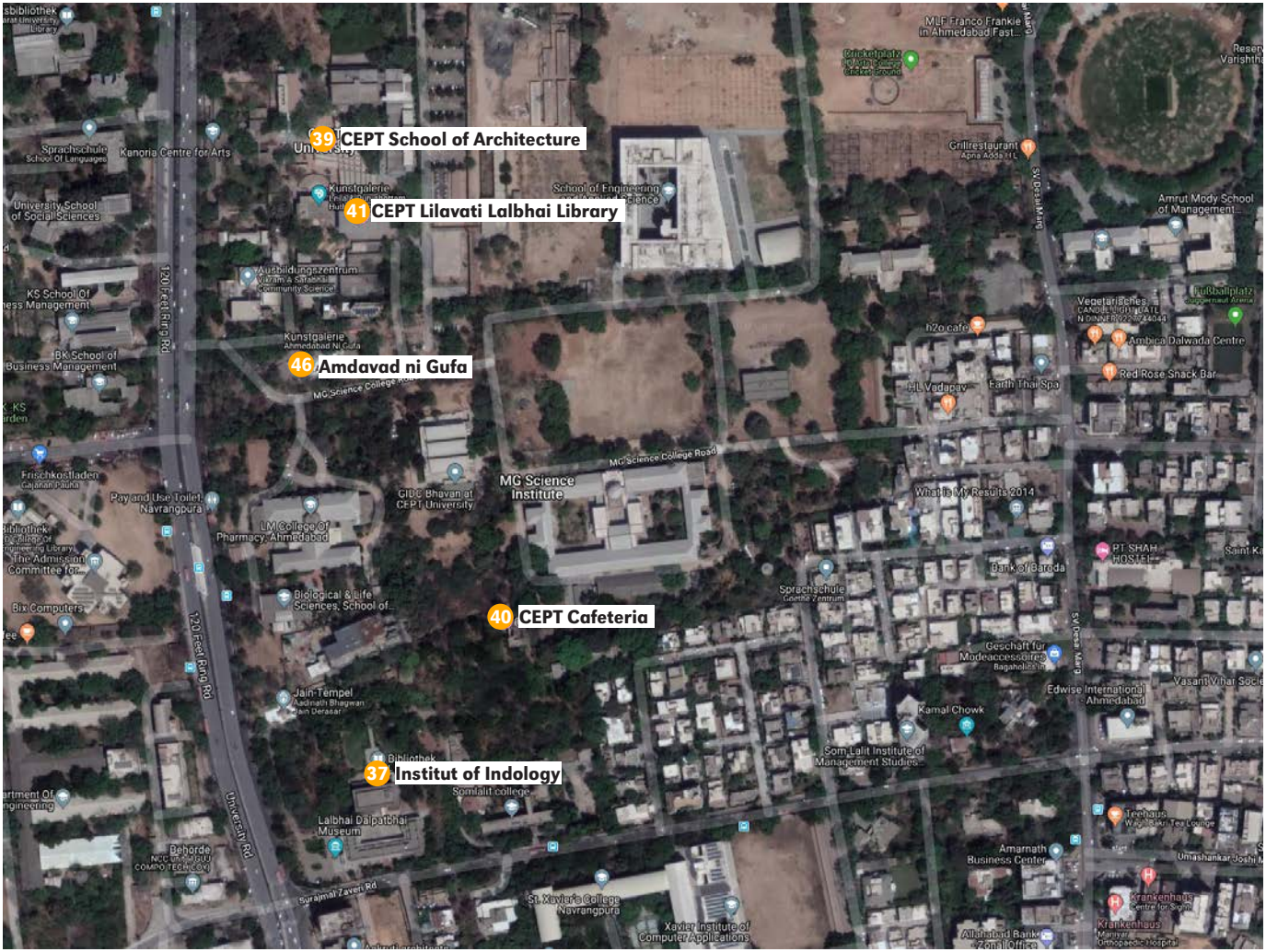
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46 Amdavad ni Gufa
40 CEPT Cafeteria
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MG Science Institute
MG Science College Road
120 Feet Ring Rd
University Rd
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Kanoria Centre for Arts
University School of Social Sciences
KS School Of Business Management
Bk School of Business Management
Kunstgalerie
Ausbildungszentrum
Frischkostladen
Pay and Use Toilet Navrangpura
LM College Of Pharmacy, Ahmedabad
GIDC Bhavan at CEPT University
Biological & Life Sciences, School of...
Bix Computers
Jain-Tempel
Bibliothek
Somlalit college
Lalbhai Dalpatbhai Museum
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Xavier Institute of Computer Applications
Som Lalit Institute of Management Studies
Kamal Chowk
Edwise International Ahmedabad
Amarnath Business Center
Geschäft für Modeaccessoires
Bank of Baroda
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What is My Results 2014
Earth Thai Spa
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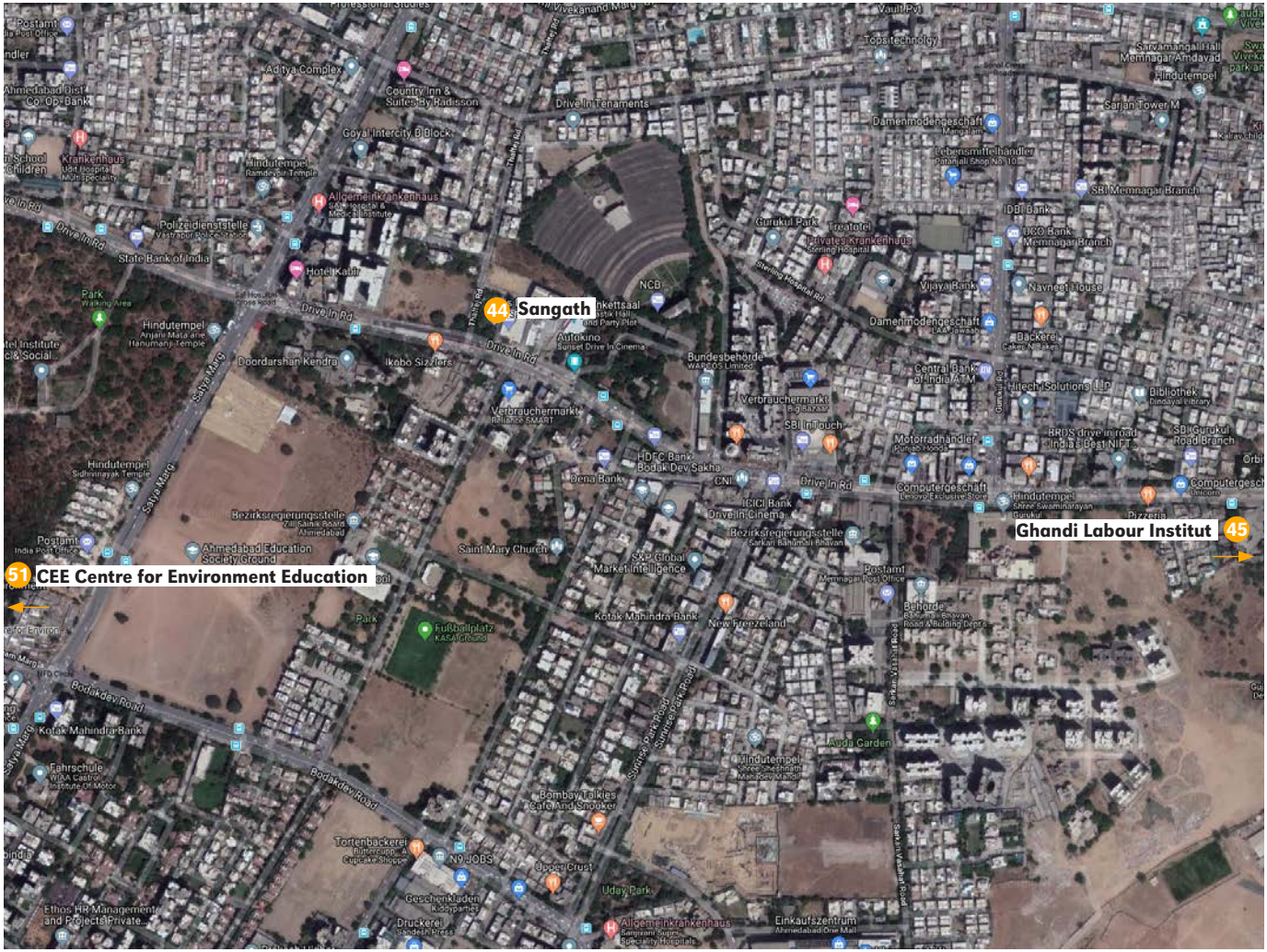
Grillrestaurant
Amrut Mody School of Management
Fußballplatz
Krankenhaus
Teehaus
Allahabad Bank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Kotak Mahindra Bank
Bombay Talkies Cafe And Snooker
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Ethos HR Management and Projects Private...
Druckerei
Einkaufszentrum
Ahmedabad One Mall
Bundesbehörde
Central Bank of India ATM
SBI InTouch
Motorradhändler
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Postamt
Bezirksregierungsstelle
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Einkaufszentrum
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Allgemeinkrankenhaus
Sangram Sugra Specialty Hospitals
Ethos HR Management and Projects Private...
Bundesbehörde
Verbrauchermarkt
Drive In Cinema
Sunset Drive In Cinema
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HDFC Bank
Bodak Dev Sakha
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Saint Mary Church
Kotak Mahindra Bank
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Sense International India
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Tree House Play Group
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Ahmedabad University Guest House
L.J Institute of Business Administration
PRL Hostel Navrangpura
PRL UN Guest House
PRL Dispensary
PRL Auditorium
Axis Bank ATM
Nescafe
Underpass to new campus
Spielplatz
Cricketplatz
Cricket Ground
SBI ATM
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Teehaus
Tea Post
Autohändler
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Dorm 9, IIM Ahmedabad
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34 Sanskar Kendra Museum
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Pramukh Swami Maharaj Marg
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Moschee
Diamond Apartments
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River Front Park
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Tagore Hall
Dalal Hall
IDBI Bank
Divan Ballubhai High School, Paldi
Pay & Use Paldi
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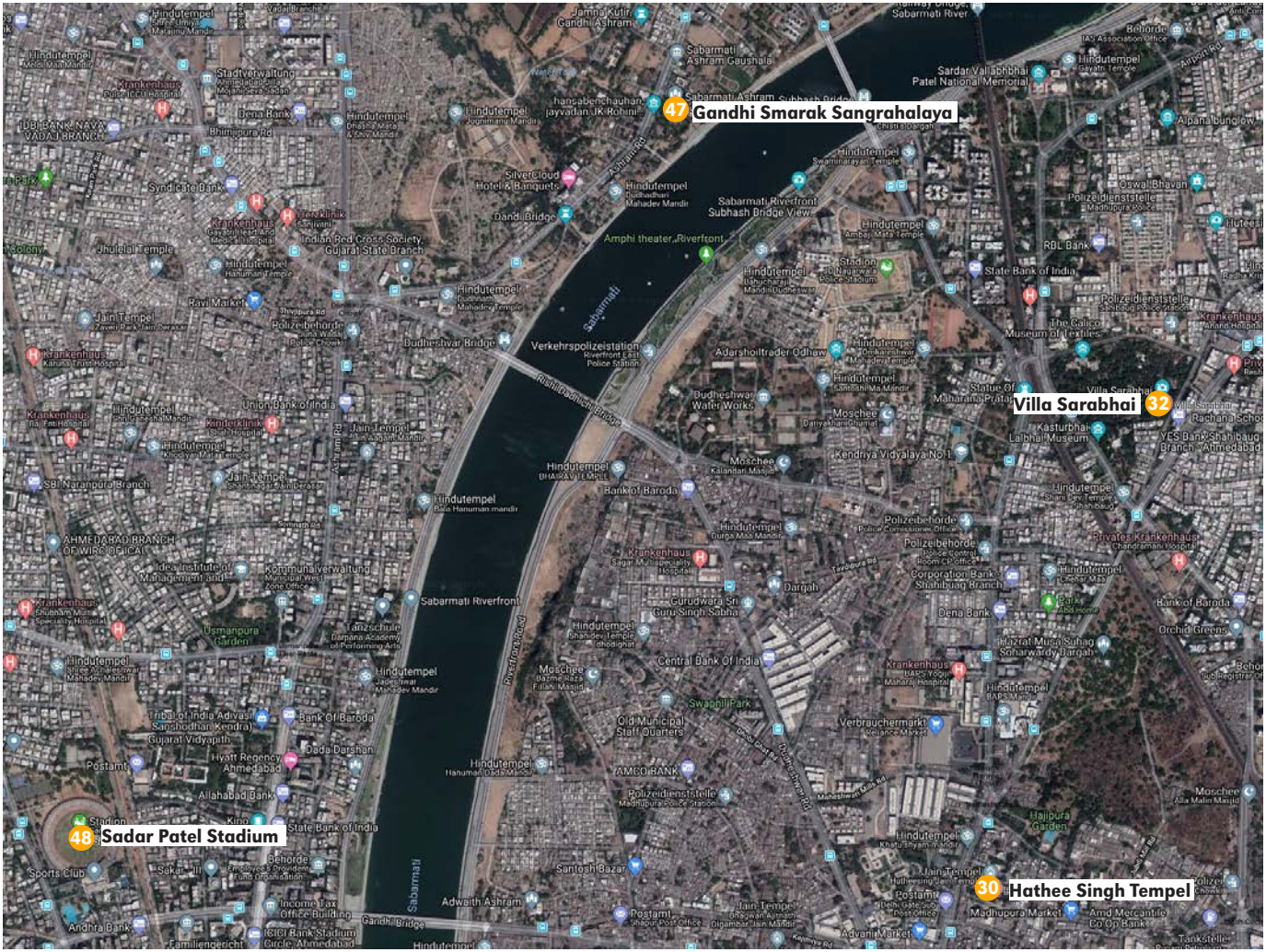
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Police Control Room CP Office
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Sabarmati Ashram
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Old Municipal Staff Quarters
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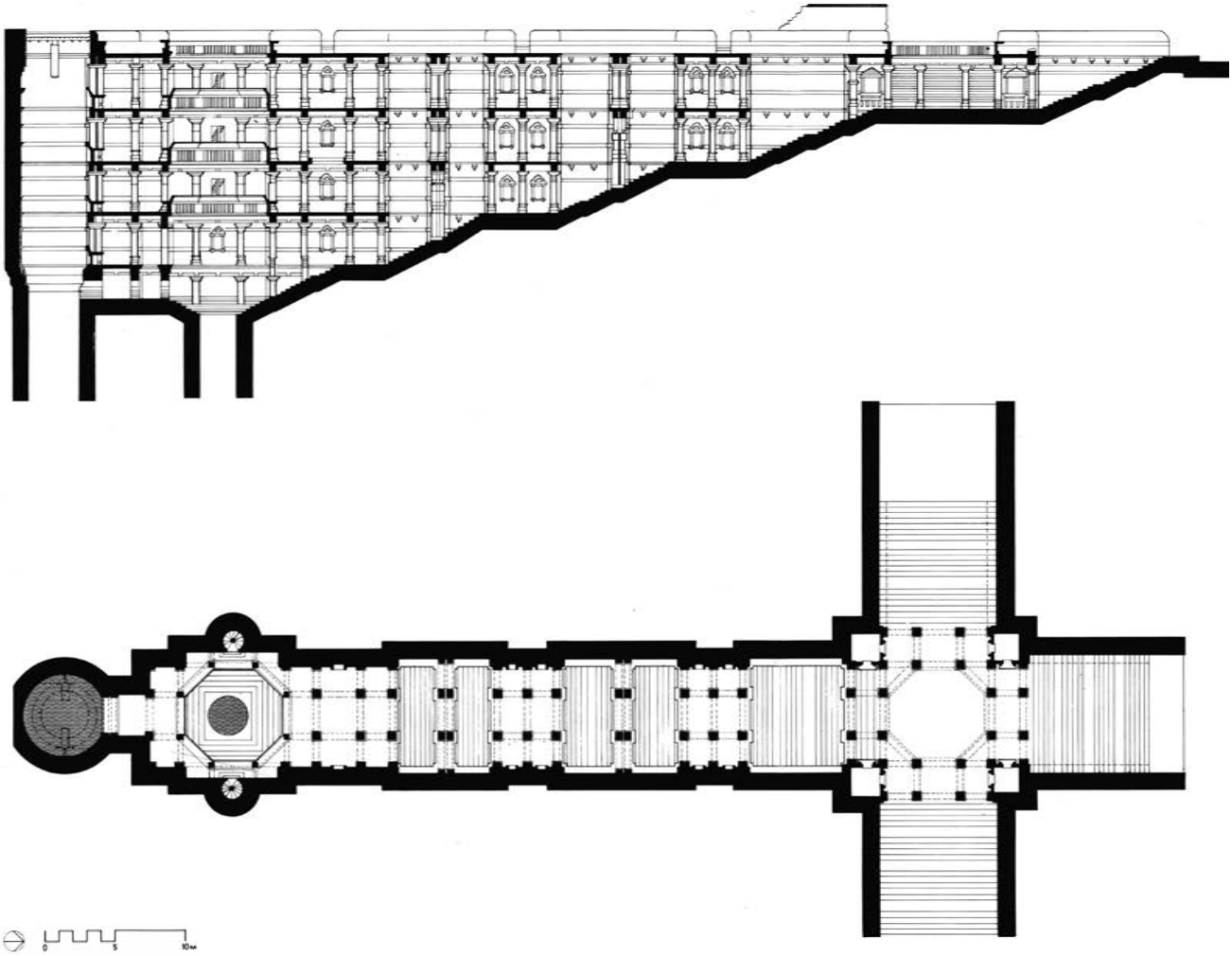
Bank of Baroda
State Bank of India
Gurudwara Sri Guru Singh Sabha
Dargah
Swaphill Park
Usmanpura Garden
Hajipura Garden
Orchid Greens
Madhupura Market
Ahmedabad
Gujarat Vidyapith
Sports Club
Adwath Ashram
Santosh Bazar
Andhra Bank
Ashram Rd
Riverfront Road
Dudheshwar Rd
Gandhi Bridge
Rivendell
Sabarmati River

Adalaj Stufenbrunnen
Rana Veer Singh
14. Jahrhundert

The intricately sculpted step-well in Adalaj, 20 km from Ahmedabad, is well preserved. It is also one of the best underground structures. The pillar and beam structure for controlling the atmospheric pressure as you descend, gives the impression of a forest. The quality and quantity of the carvings are exceptional.
This small village was a large town 500 years ago. Queen Ruda of the Hindu Waghra dynasty built this well for her citizens, around the same time as the Dada Baoli in Ahmedabad and they are similar. The one difference is that Dada Baoli is vertical while Ruda Baoli has staircases from three sides joining together on a wide landing and from here it continues up to the water level. This space is surrounded by eight pillars with a large flat ceiling in the middle of which is an octagonal stairwell. There must have been a dome pavilion here previously and was used also as a stage with „spectator seats". The decoration of the columns, curved brackets and lintels is highly elaborate, with repeated friezes of flat pilasters and lotus ornament. Tiers of richly ornamented balcony slabs overlook the octagonal space. Animal motifs, including elephants, horses and birds, and even the occasional depiction of hunters and planetary deities, adorn the lintels and wall niches; more common are the pots hanging from chains and the arabesque designs which are ubiquitous motifs in contemporary mosques and tombs. In contrast to this sculptural profusion, the main well, some six metres in diameter, is relatively unadorned. A squinch-like addition at the rear (north) end supported the draw ropes.

Professur Wolfgang Schett, ETH Zürich, *Bombay-Ahmedabad*, Seminarreisereader HS 2008, Zürich 2008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Builder:
Architects and craftsmen belonging to the household of a local Hindu king.

Original Subsequent Present Use:
A reservoir and cistern for religious and secular purposes.

Historical Notes:
The step-well at Adalaj was one of dozens of similar structures built throughout Gujerat between the 11th and 16th centuries. Some descend seven levels below ground.

Site Climate:
Hot, dry season alternates with hot and humid monsoon season. Tropical sunlight.

Site Landscape:
Flat countryside with an occasional elevation. Sparse, brush-like vegetation. Natural water supply was insufficient for farming and household demands.

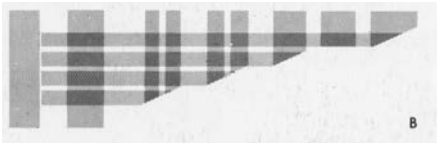
Indigenous Aspects:
For centuries the native population of this region had been Hindu. The notion of formal access to a source of water was deeply rooted in the religious tradition of the Hindus.

Activities:
Worship took place at the entrance to the well, where a number of shrines were erected in honor of certain deities. Religious ablutions were performed on the steps and platforms leading down to the large cistern. No matter how low the water level happened to be it was always easily accessible. Though the experience of descending to the water would vary with the season, each experience would in itself be unified. Even on very hot days, the platforms and galleries were cool and dark - a perfect refuge from the blazing heat, and thus a likely meeting place for the villagers. With the help of bullocks, water was pulled up in skins from the small cistern and carried to the fields or the village for farm and domestic use.

Physical Structure:
Red sandstone (quarried locally) was used for construction and surface treatment. With the exception of the side walls, all vertical surfaces have been carved with elaborate ornamentation.

Components of Formal Structure:
Spatial system: system of interpenetrating vertical and horizontal voids („shafts“ and „tunnels“). [B]
Linear circulation system. [C]
Hierarchical composition upon one main axis.

Gastdozentur Mathias Müller und Daniel Niggli, ETH Zürich, *Indien. Mumbai, Ahmedabad*, Seminarreisereader HS 2010, Zürich 2010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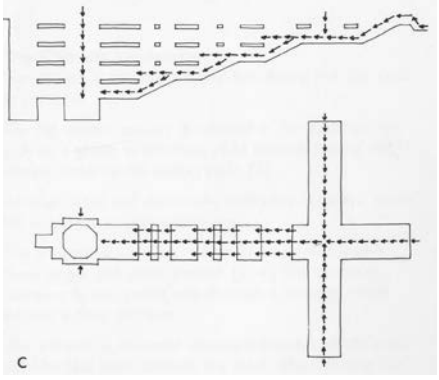
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While several different types of hydraulic structures were built from the period of Ahmad Shah onwards in and around his new capital of Gujarat, many of these were modelled on earlier pre-Islamic traditions. No doubt it was the impact of the semi-arid climate of the region on local architectural practice which was responsible for the long history of structures designed specifically for storing water, such as reservoirs or tanks (talavs), cisterns (tankas), step-wells (vavs) and retreat-wells. Almost all towns and religious sites of any importance in Gujarat were provided with such hydraulic monuments. Before the coming of the Muslims, the Hindu rulers of the area, such as the Solankis in the tenth and eleventh centuries, had completely mastered the technology of creating complex water structures. From this period date large rectangular tanks with stepped sides, as well as deep square, octagonal and circular wells approached by long flights of steps. Subterranean water structures were further elaborated with colonnades, balconies, wall niches and sculptures. Such an architectural attention on water derived both from a utilitarian and a ritual necessity. Clearly, water has always been a precious commodity in Gujarat, essential to the well-being of the community; but water structures served also as places of worship. Miniature shrines and carved figural panels reveal the religious nature of tanks and step-wells, many of which were located near important temples and, in later times, near mosques and tombs. The water would vary with the season, each experience would in itself be unified. Even on very hot days, the platforms and galleries were cool and dark - a perfect refuge from the blazing heat, and thus a likely meeting place for the villagers. With the help of bullocks, water was pulled up in skins from the small cistern and carried to the fields or the village for farm and domestic use.

However, the step-wells (vavs) of the Ahmadabad region are the best known water structures. The typical vav consists of a deep square, circular or octagonal well approached by a long flight of steps with landings. Such structures penetrate the ground to a depth of more than thirty metres. Descent is by steps divided into a number of flights by landings, each provided with an open structure. The increased complexity of the architecture as the steps descend is a typical feature; often there is nothing to be seen on the surface of the ground other than a simple entrance pavilion. In this respect, the vav represents a unique „upside down" type of architecture.

In the more evolved step-well, the landings are adorned with multi-storeyed colonnades and porches; the side walls are enlivened with stringcourses and niches. The walls of the well itself are decorated with brackets, balconies and niches. Throughout, the repertory of architectural elements and accompanying decoration is closely related to contemporary architecture. This is true both for the pre-Islamic period and also for the later Muslim era.

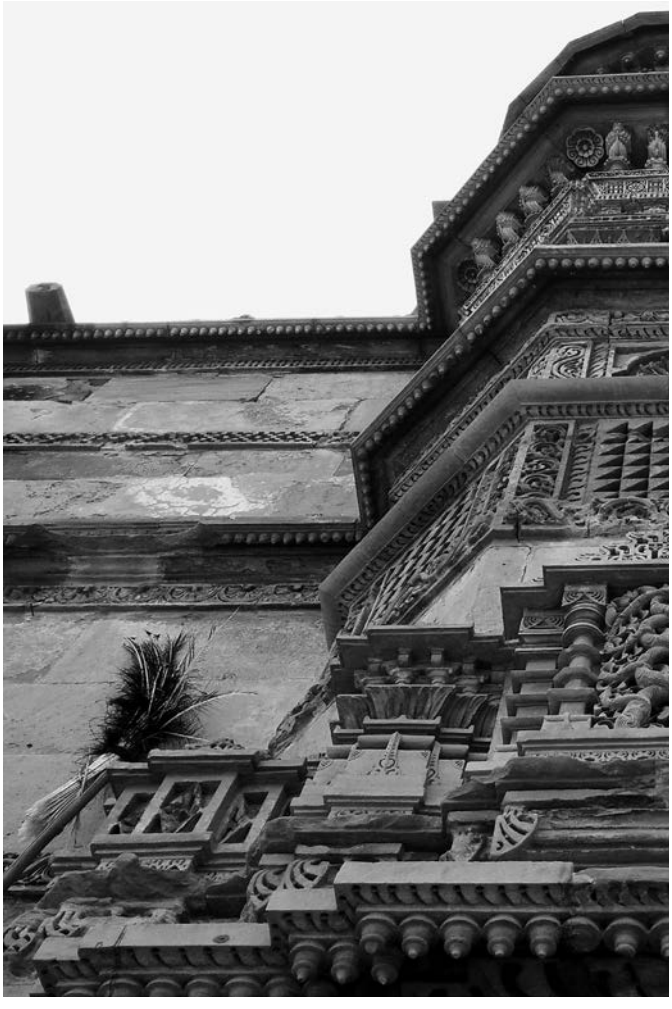
While step-wells, like other water structures, were primarily utilitarian in purpose, their ritual and symbolic values suggest other uses - as meeting places, resting places and, even on occasion, hiding places. The religious purpose of the vav in pre-Islamic times is clearly indicated by the iconography of its carvings showing that the step-well served also as a kind of water shrine.

Gastdozentur Mathias Müller und Daniel Niggli, ETH Zürich, *Indien. Mumbai, Ahmedabad*, Seminarreisereader HS 2010, Zürich 2010

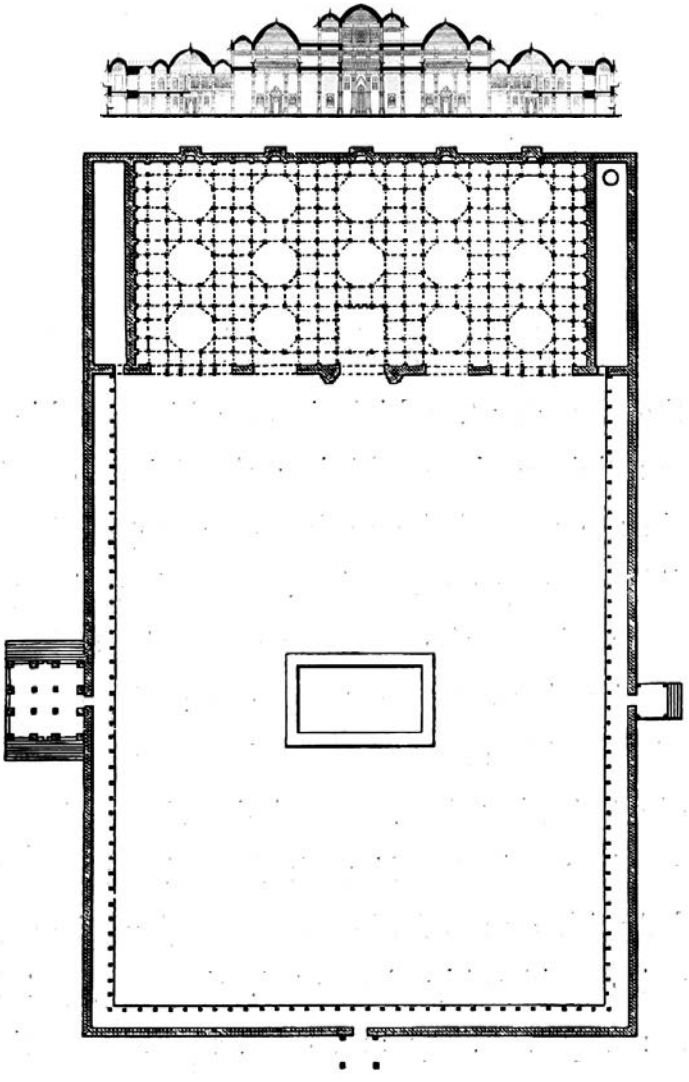
Jama Masjid
Ahmad Shah I
1423

Built in 1424 by Bhamani ruler Ahmad Shah I (1411-1442), the Jami Masjid of Ahmedabad was probably the largest mosque constructed on the Indian subcontinent at the time. Conceived as a part of the emperor's grandiose urban vision, the mosque lies to the south of a royal processional way that travels eastward from the Maidan-i Shah and the triple gateway known as Teen Darwaza. To the east of the mosque are the tombs of Ahmed Shah, his son and grandson. A further adjacent enclosure, Rani Ka Hazira, houses the tomb of the Shah's queen and other royal ladies.

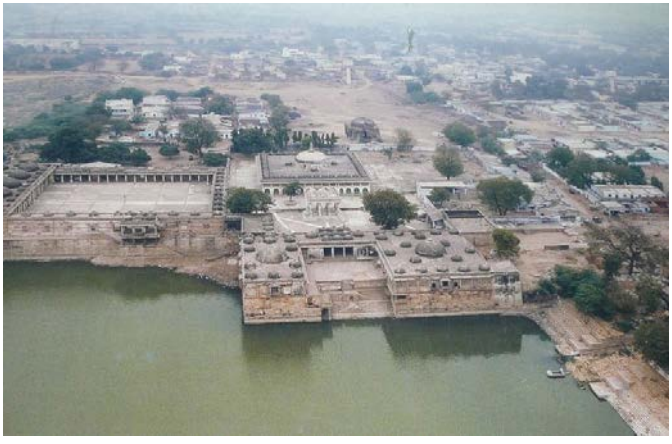
Built over many years, the mosque complex is centered on a vast paved courtyard that is about seventy-five meters long and sixty-six meters wide. The Mirat-i-Sikandari (1414-15) gives detailed measurements of the mosque. The courtyard is entered from three gateways, one at the center of each side. There is a long rectangular ablution tank in the center. It is wrapped by a colonnade on three sides, with the prayer hall occupying the western side. The prayer hall is rectangular and covered with five domes. The domes are carried on two hundred and sixty columns, which divide the space into fifteen bays or, three rows of five square bays, each with a dome and decorated mihrab along a the qibla wall. Its courtyard facade has a stepped roofline, with a tall portal at its center. The north and south chambers, which are the lowest, open onto the courtyard through five pillared bays of unequal size. The taller central chamber is flanked by two shorter archways and is entered from the tall arched portal with a final bearing dome. Perforated stone screens are pierced into the pillars of the two framing bays. The portal is framed by two columns, which are the remains of two lofty minarets („shaking minarets") whose shafts were destroyed by the earthquakes of 1819 and 1957.



Professur Wolfgang Schett, ETH Zürich, *Bombay-Ahmedabad*, Seminarreisereader HS 2008, Zürich 2008

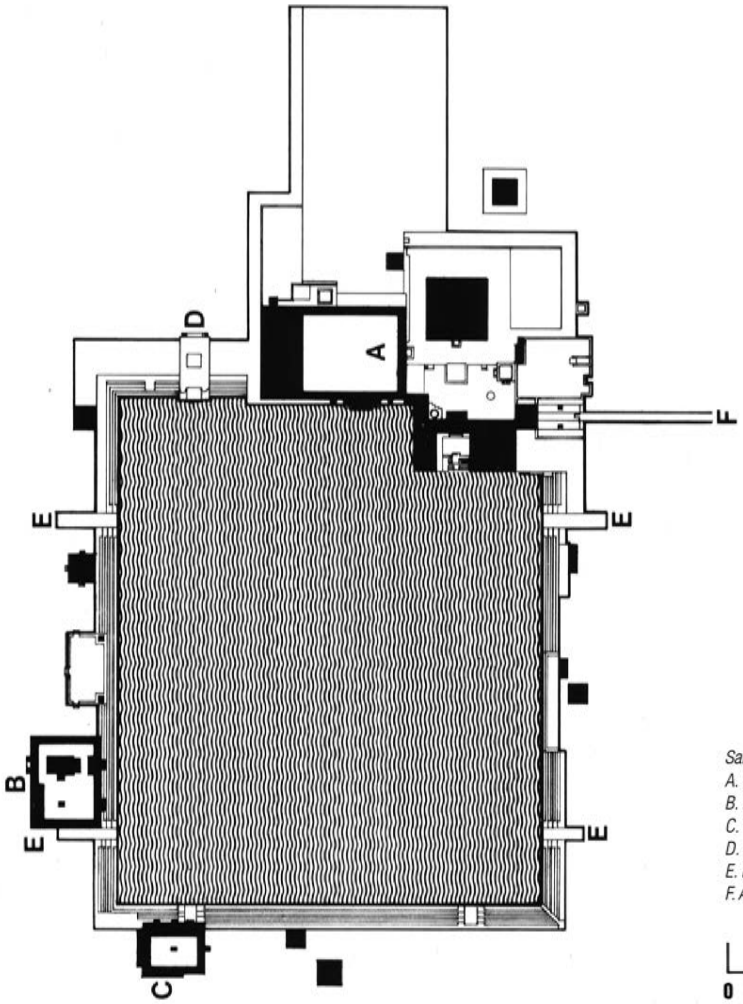


Sarkhej Roza Moschee, Tempel, Mausoleum
Azam Khan und Muazzam Khan
1451



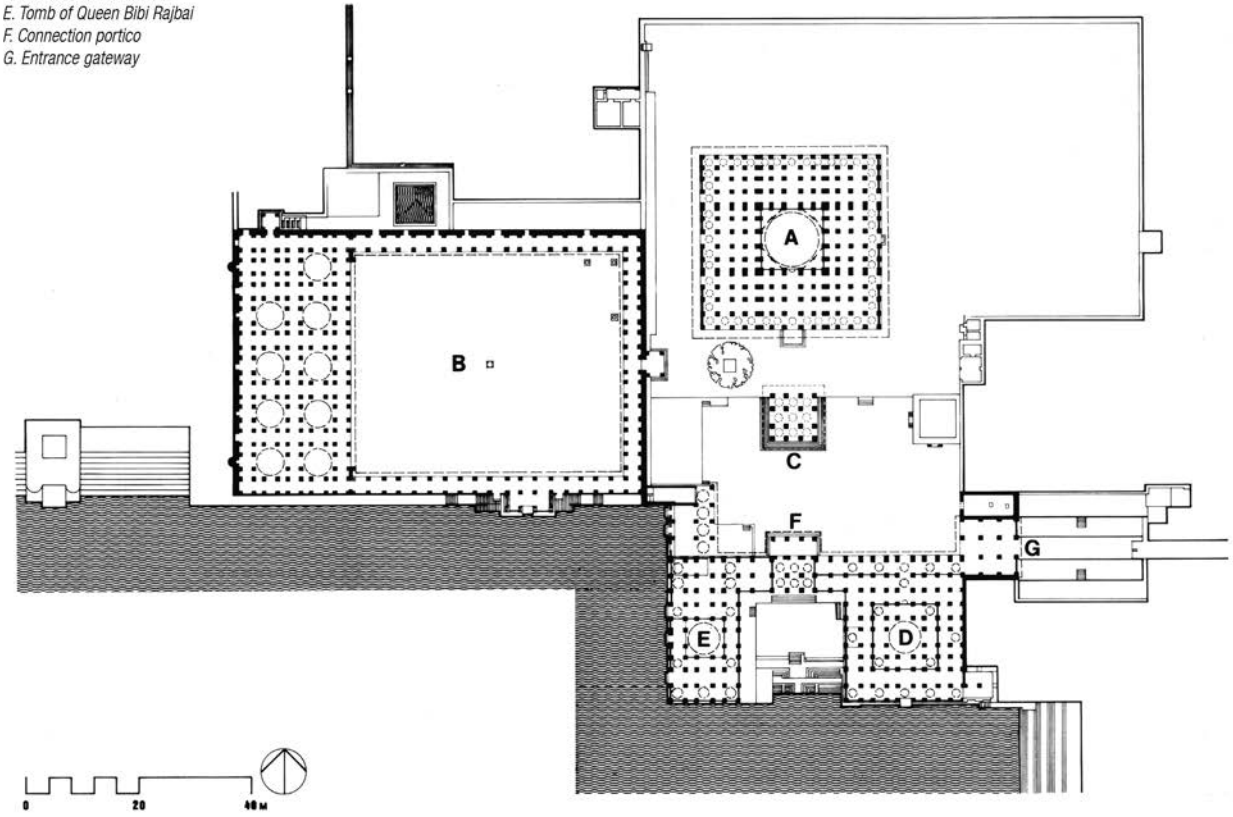
Sarkhej Roza comprises one of the most elegant and unique architectural complexes of Ahmedabad. In its architecture, Sarkhej Roza is an example of the early Islamic architectural culture of the region, which fused Islamic stylistic influences from Persia with indigenous Hindu and Jain features to form a composite "Indo-Saracenic" architectural style. The architectural style of Sarkhej Roza is a precursor to the Mughal period in a true amalgamation of Hindu, Jain and Islamic styles. Hindu craftsmanship and construction know-how was overlaid on Islamic sense of geometry and scale. The Roza Complex at Sarkhej was built at the advent of Sultanate era.
[...]
Sarkhej Roza lies in the village, off the main Sarkhej road, about 10 kilometres southwest of Ahmedabad. The gateway of its entrance opens to a fore-court with the majestic mausoleum to the right and the royal tombs to the left. Beyond these is a spacious courtyard mosque, which is remarkable for its unassuming elegance and the linear purity of its multi-domed prayer hall and colonnades. The mausoleum and mosque were ordered by Sultan Muhammad Shah (r. 1442-51), the son of Ahmed Shah, in 1446, and were completed in the reign of his successor Sultan Qutbuddin (r. 1451-58). Later, the Roza became a favourite resort and retreat for Sultan Mahmud Begda (r.1458-1511), who added a large tank with palaces amidst flowering and fruit trees on its southwest corner and the royal tombs to its north. The royal tombs blend harmoniously with the earlier mausoleum.
The Roza complex at Sarkhej, is one of the finest demonstrations of campus planning, where the religious, royal and social worlds co-exist without losing their serenity or identity. The mosque with cloistered court creates the religious realm. The tomb and palaces constitute the royal realm. The tank, steps, platforms and pavilions form the social realm. Carved stone grills do not just mitigate light and temperature, but also maintain privacy and dignity of the place.
[...]

Professur Wolfgang Schett, ETH Zürich, *Bombay-Ahmedabad*, Seminarreisereader HS 2008, Zürich 2008

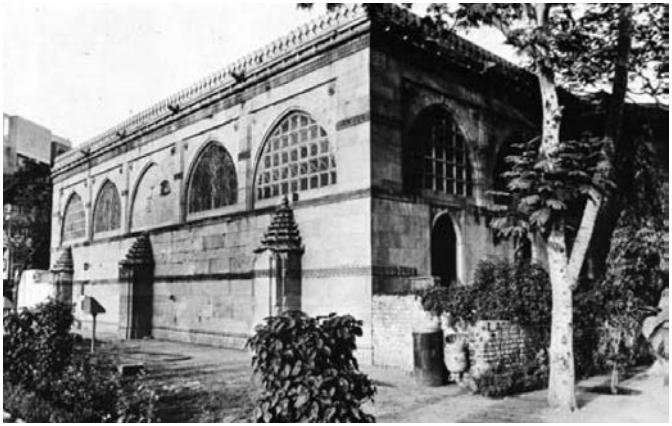


Sakhej, site plan of complex including tank
A. Complex of mosque and tombs
B. Palace of Mahmud Shah
C. Palace
D. Sluice
E. Ramp
F. Approach road with gateway

ground floor plan of mosque and tomb complex
A. Tomb of Shaik Ahmad Khattu
B. Mosque
C. Pavilon
D. Tomb of Mahmud Shah
E. Tomb of Queen Bibi Rajbai
F. Connection portico
G. Entrance gateway

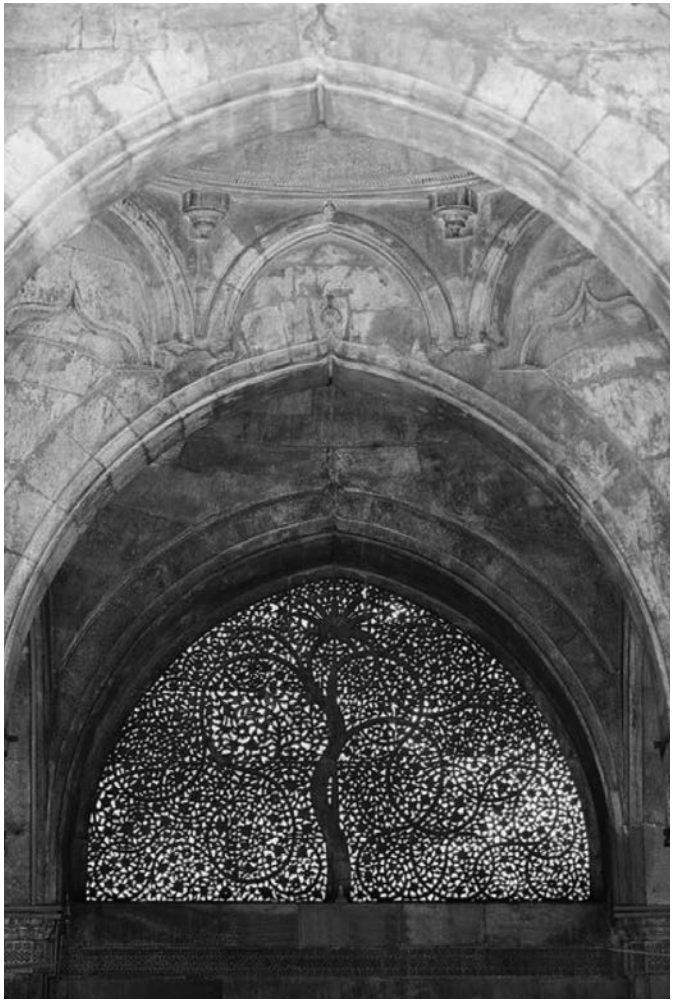


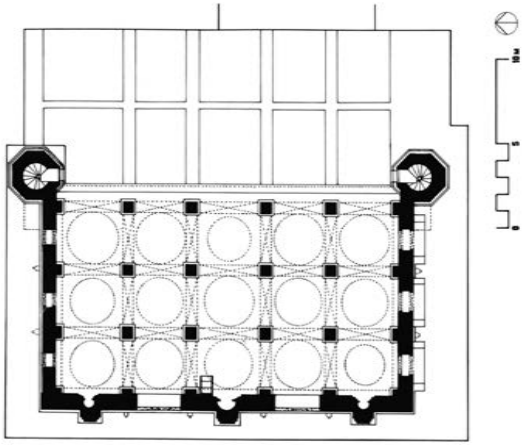
Sidi Saiyyed`s Moschee
Sidi Sayyad
1572-1573

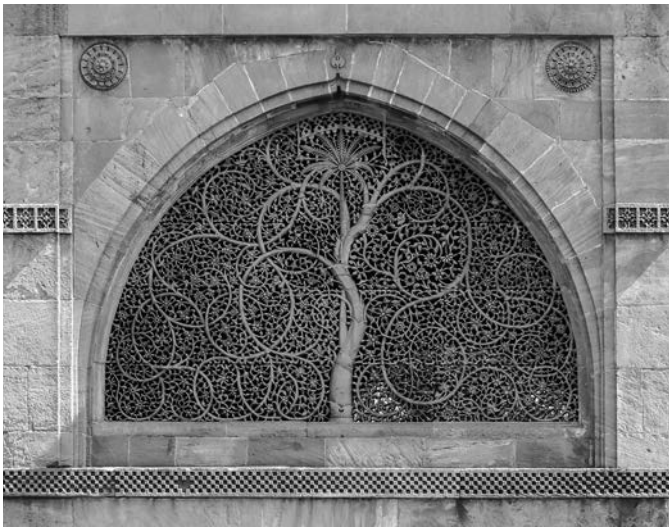


During the final decline of the Gujarat Sultanate a faction of Habshis, men of African slave stock, had become powerful in some regions of the state. One prominent member of this community, Sidi Said, caused a mosque to be built, in 1572, in Ahmedabad, just outside the northeast corner of the citadel, which can perhaps be counted the last great building in the Gujarati style before the Mughal conquest. Sidi Said's mosque is again in the purely arcuate style, five bays wide and three bays deep, with broad buttresses at the ends of the facade which may have formerly supported minarets. What makes this little mosque so distinguished is its ten window screens which fill in the tympana of the side and rear arches; those in the side walls, and two in the bays of the back wall, are filled with the usual square stone pierced panels in geometrical and vegetal designs, but those of the two bays flanking the central aisle are whole slabs of pierced intertwined tree and foliage designs, in one a „palm and parasite" motif combining the superb sculptural skill of the carvings already seen on some of the minaret buttresses with the flowing form derived from that ancient Islamic device, the arabesque, and a „four palms" device in the other scarcely less elaborate. There are no screens elsewhere in India to compare with these in either skill or beauty, although an imitation of one design occurs in one of Akbar's early buildings at Fatehpur Sikri.

George Michell, *Snehal Shah Ahmadabad*, Mishigan 1988







Hathee Singh Tempel
Seth Hathee Singh
1850

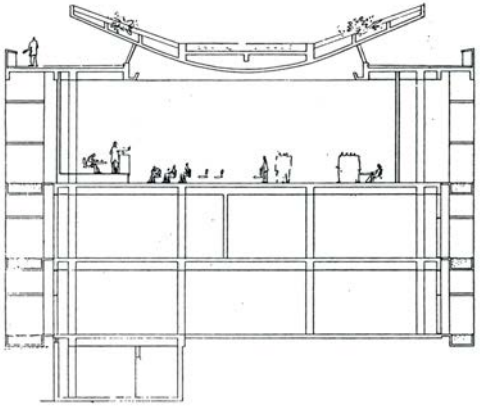
Constructed in the year 1850 AD, Hathee Singh temple is a very famous Jain temple. It has been named after its founder Seth Hathee Singh, a prosperous Jain merchant. Hathee Singh Jain temple of Ahmedabad was built in the dedication of the 15th Jain Trithanakara named Dharmnath. The temple is known for its fabulous architectural styling and designing that consists of intricate carvings. It is an architectural marvel that has been built using beautiful white marbles. Hathee Singh Jain temple is a double storied construction that has a dome on the front side. The other two sides of the temple consist of lavishly carved out galleries. The temple has a cemented courtyard that is enclosed by a row of cloisters, which contains 52 holy places. Each of the shrines consists of an image of a Tirthankara.

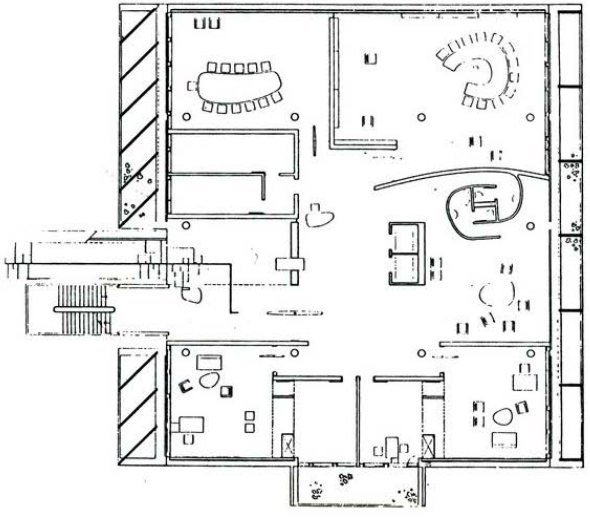
Professur Wolfgang Schett, ETH Zürich, ***Bombay-Ahmedabad***, Seminarreisereader HS 2008, Zürich 2008

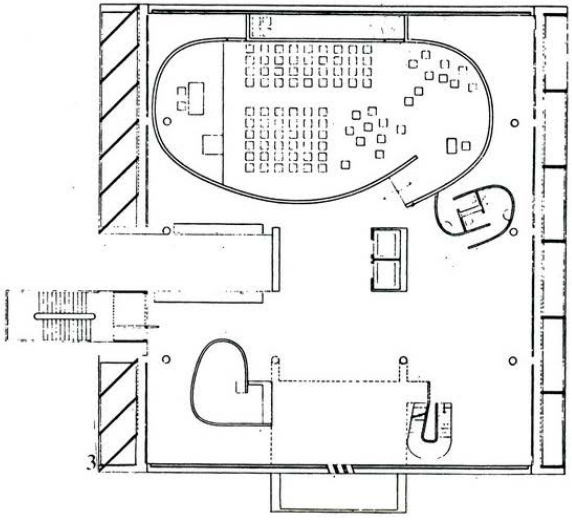
Mill Owner`s Association Building
Le Corbusier
1954

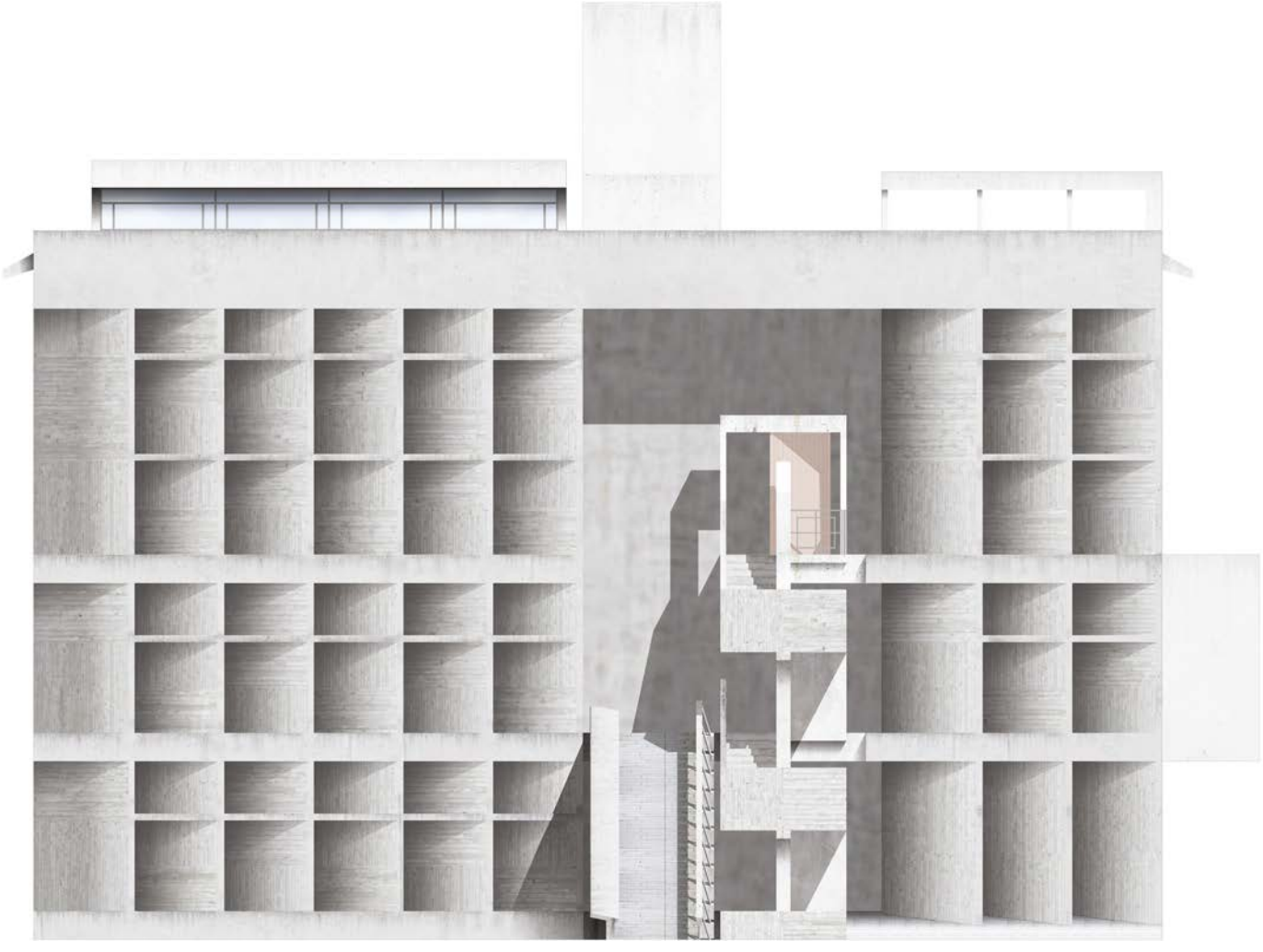
Das Gebäude wurde für eine Gruppe der grössten Baumwollspinnereien Indiens gebaut. Es beherbergt die Lokale für die Zentralverwaltung und die Generalversammlungen. Alle Räume sind ausgesprochen repräsentativ. Das Haus liegt in einem Garten über einem Fluss, an dem die Färber ihre Baumwolle waschen und auf dem Uferrand trocknen. Reiher, Kühe, Büffel und Esel, die sich im Wasser erfrischen, leisten ihnen Gesellschaft. Es lag dem Architekten daran, von allen Etagen Ausblicke auf dieses malerische Schauspiel zu gewähren, das den Rahmen bei der täglichen Arbeit und den nächtlichen Festen auf dem Dach bildet.
Die Konstruktion ist streng; das Gebäude ist nach den dominierenden Winden ausgerichtet. Genau dem Breitegrad Ahmedabads und dem Sonnenlauf entsprechende Sonnenbrecher befinden sich an der West- und Ostfassade, während die Süd- und Nordfassaden keine (oder nahezu keine) Öffnungen aufweisen. Dach und Bar werden bei den nächtlichen Festen benutzt. Die Wände des Versammlungssaales bestehen aus einer Unterkonstruktion aus Backsteinen und einer Verkleidung aus Sperrholz. [...]
Der Saal wird durch Reflektieren der gewölbten Decke indirekt beleuchtet; die Decke wird durch ein Wasserbassin und zwei Dachterrassen kühl gehalten. Zirkulation: Vom Untergeschoss bis zum Dach bedient eine doppelte Liftanlage sämtliche Stockwerke. Eine lange Fussgängerrampe verbindet die Etage der Direktionsräume mit den Autohaltestellen. Zur Monsunzeit halten die Autos direkt an den bis zum Boden reichenden Sonnenbrechern. Materialien: Nord- und Südfassaden unverputzter Backstein; Ost- und Westfassaden Beton mit Holzverschalung bei den Sonnenbrechern und Blechverschalung zum Eingiessen des Betons bei den Mauern.
Für die Fussböden wurden Steine aus Delhi (Morak stone) verwendet, die nach dem System 'Optimalbelag Modulor' verlegt sind. Dieser Belag ist an den Stirnwänden links und rechts in allen Etagen bis zur Decke hinaufgeführt und bildet in den Direktionsbüros und auf der Terrasse des Versammlungssaales Tapisserien aus Steinen.

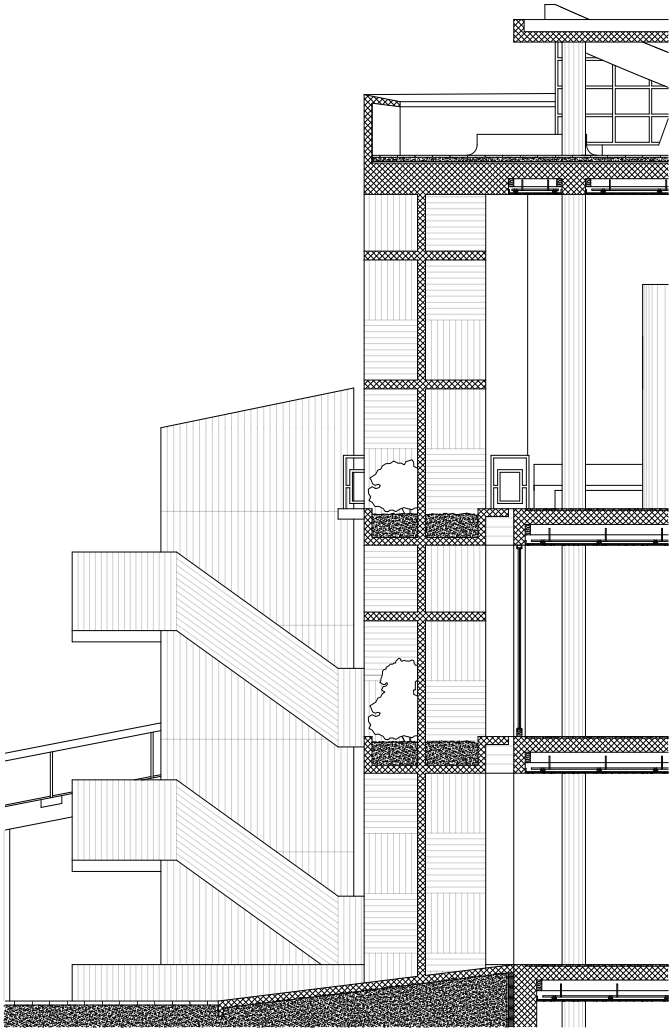
Willy Boesiger, *Le Corbusier et son atelier rue de Sèvres 35, Oeuvre complète 1952-1957*, Zürich, 1957









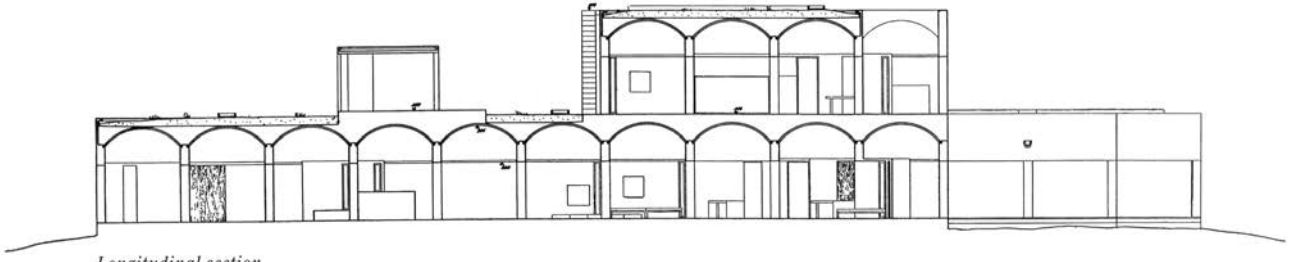


Villa Sarabhai
Le Corbusier
1951-1955

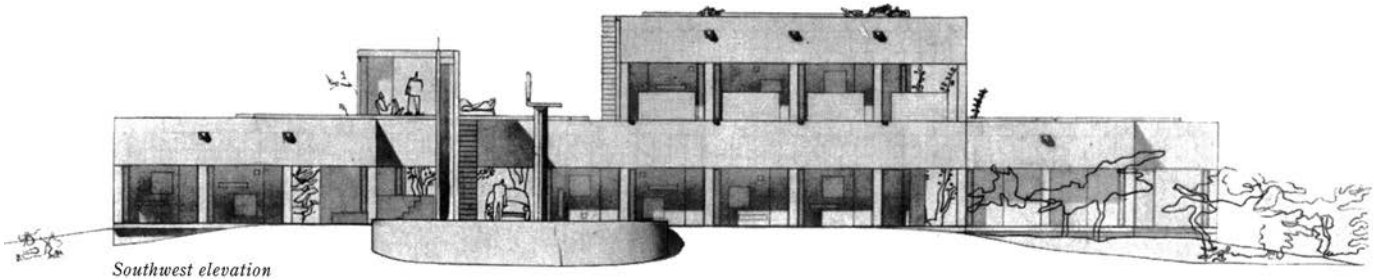
[...] The client, Mrs. Manorama Sarabhai, is a widow who wished to spend an open, peaceful family life with her two university student sons in this new house set amidst a rich natural setting. The Sarabhai family had achieved great success in the textile industry that is one of the major industry in Ahmedabad, but what Mrs. Sarabhai asked when she commissioned Le Corbusier to build her house were the richness and tranquility that are brought about by coexisting with nature that are innate in Indian culture, rather than Western/material richness, which might have coincided with the subject theme of restoration of humanity by reducing its distance with nature that the modernist architecture has been inherently searching for. That is how Le Corbusier came to design the 'definitive version' of his Monolstyle house - a house with a low profile that blends into nature-completely free of signboard-like architectural gestures that would bravely send out statements to the society.

The basic layout of this house is defined by the direction of the wind that blows across the site, which is from southwest to northeast. The main building's ground floor is composed of ten rows of sequential vaults along a concrete beam supported by eleven parallel walls, while the first floor accommodates the master bedroom within four rows of sequential vaults that span between five walls at the southeastern end of the building. These vaults are made of brick tiles without formwork using Catalan traditional method, with no surface finishing in a folk-dwelling style. Sufficient depth is given to the concrete beams supporting the vaults, making it possible to open apertures anywhere in the brick bearing walls. The surface defined by the eleven walls acquires a transversal, flexible space, providing continuity to each of the sceneries that have been configured according to the usage. Such spatial composition defined by vault units determines this house's strength, and even in the event that the spaces' usage or layout is changed, or new pieces of furniture or art works are added, the essence of space intrinsically given to this house never ceases to glow any changes and accumulations will coexist to constitute this house's timeline. [...]

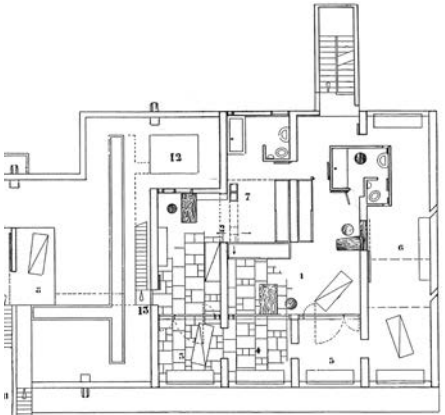
Yoshio Futagawa in: GA, *Residential Masterpieces 10. Le Corbusier Sarabhai House*, Tokio 2011



Longitudinal section

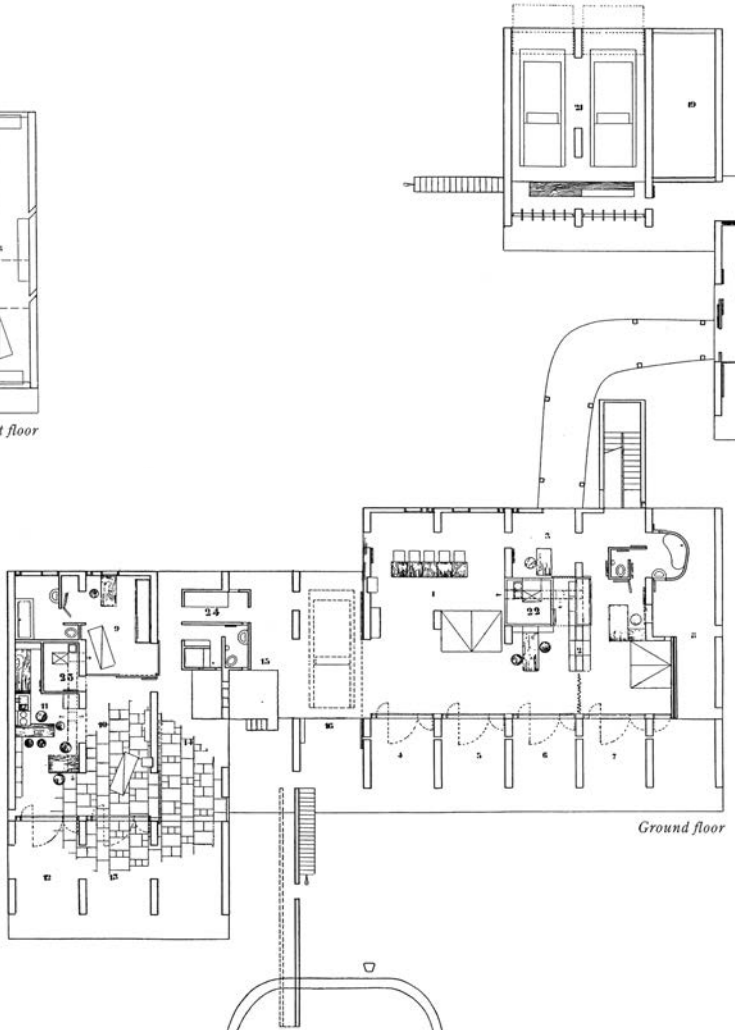


Southwest elevation



First floor

1 MRS. SARABHAI'S BEDROOM
2 SON'S BEDROOM
3 to 6 VERANDA
7 AIR CONDITIONING ROOM
8, 12 TERRACE
11 SLIDER
13 STAIRCASE TO ROOF



Ground floor

Mrs. Sarabhai's suite
1 LIVING/DINING ROOM
2 STUDY
3 SERVICE ROOM
4 to 8 VERANDA

Her son's suite
9 BEDROOM
10 STUDY
11 KITCHENETTE
12, 13 VERANDA
14 to 16 OPEN VERANDA

Service area
17 KITCHEN
18 FOOD STORAGE
19, 20 SERVANT ROOM
21 CARPORT
22, 23 AIR-CONDITIONER ROOM
24 GATEKEEPER ROOM


JASPER JOHNS

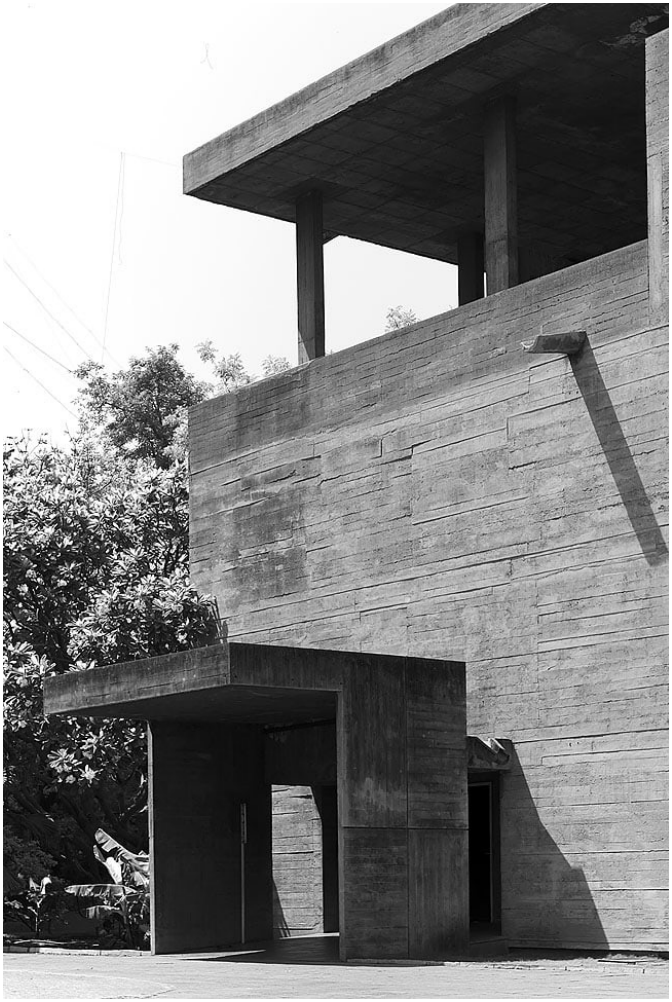
Villa Shodhan
Le Corbusier
1951-1956

1951 wurde Le Corbusier von Herrn Hutheesing, dem Sekretär des Verbandes der Millowners (Baumwollspinnerei-Verband) beauftragt, ein Landhaus nach seinen ganz persönlichen Bedürfnissen zu entwerfen. Kaum waren die Ausführungspläne fertig gestellt, verkaufte sie Herr Hutheesing an Herrn Shodhan, der ein anderes Grundstück besass. Zum Glück sind die Pläne Le Corbusiers für Bauten in Indien immer in erster Linie vom Lande selbst diktiert, und so vollzog sich die Anpassung dieser Pläne an das neue Grundstück ohne besondere Schwierigkeiten.

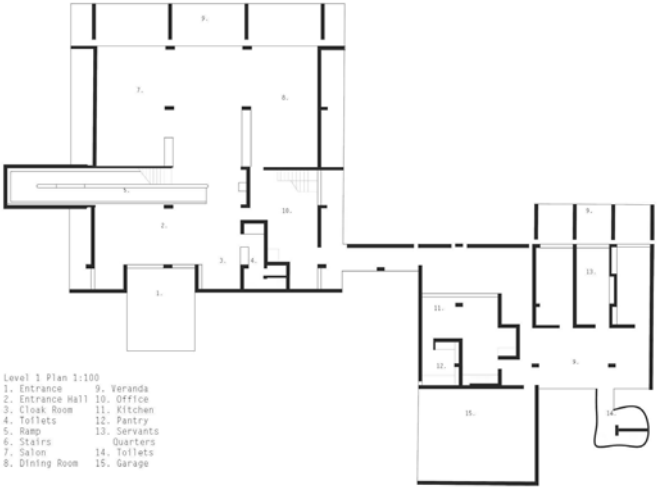
Die Konstruktion ist bemerkenswert einfach. Anordnung, Formen und Dimensionen der Räume im Schatten der Sonnenbrecher an den Fassaden und des schirmförmigen Daches aber ergeben eine erstaunliche räumliche Wirkung. Die Räume stehen in Verbindung mit den Terrassen, über die die Winde hinstreichen. Der Plan erinnert an denjenigen der Villa Savoye in Poissy (1929-30), ist aber dem tropischen Klima und der indischen Bauweise angepasst.

Das Schalmaterial für die Fassaden besteht aus zusammengesuchtem Holz; der Beton ist nach der Ausschalung roh belassen. Einzig für das Sonnenschutzdach und die Wohnräume wurden Blechschalungen verwendet; die starken Farben heben die Struktur des Rohbetons hervor.

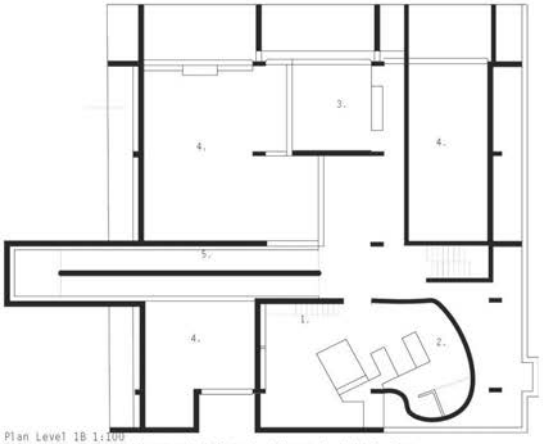
Ein charakteristisches Element bildet die Rampe, die vom Zwischenstock zur ersten Etage führt. Zuoberst befindet sich ein Dachgarten mit verschiedenen Niveauhöhen mit drei unabhängigen und doch miteinander in Verbindung stehenden Wohnungen.



Professur Wolfgang Schett, ETH Zürich, *Bombay-Ahmedabad*, Seminarreisereader HS 2008, Zürich 2008

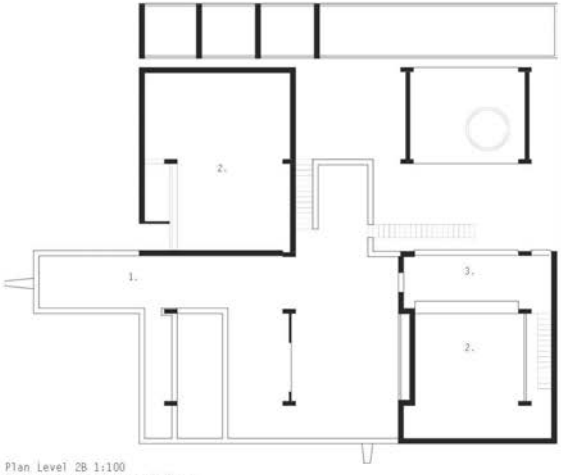


Level 1 Plan 1:100
1. Entrance
2. Entrance Hall
3. Cloak Room
4. Toilets
5. Ramp
6. Stairs
7. Salon
8. Dining Room
9. Veranda
10. Office
11. Kitchen
12. Pantry
13. Servants Quarters
14. Toilets
15. Garage

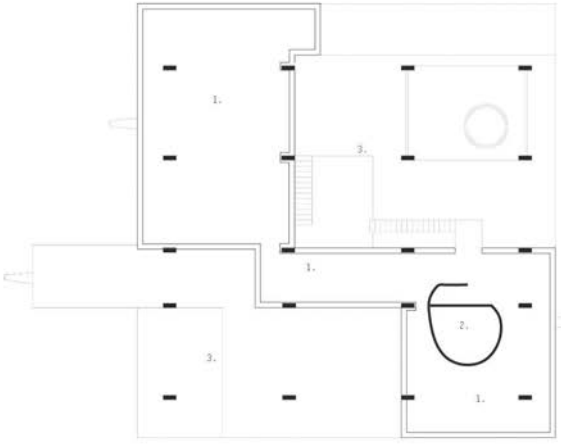


Plan Level 1B 1:100
1. Guest Bedroom 2. Closet and Toilets 3. Library 4. Void 5. Ramp

Plan Level 2 1:100
1. Bedroom 2. Toilets 3. Bedroom 4. Terrasse 5. Void 6. Gallery 7. Ramp



Plan Level 2B 1:100
1. Terrasse 2. Void 3. Gallery



Plan Level 3 1:100
1. Terrasse 2. Water Resevoir 3. Void

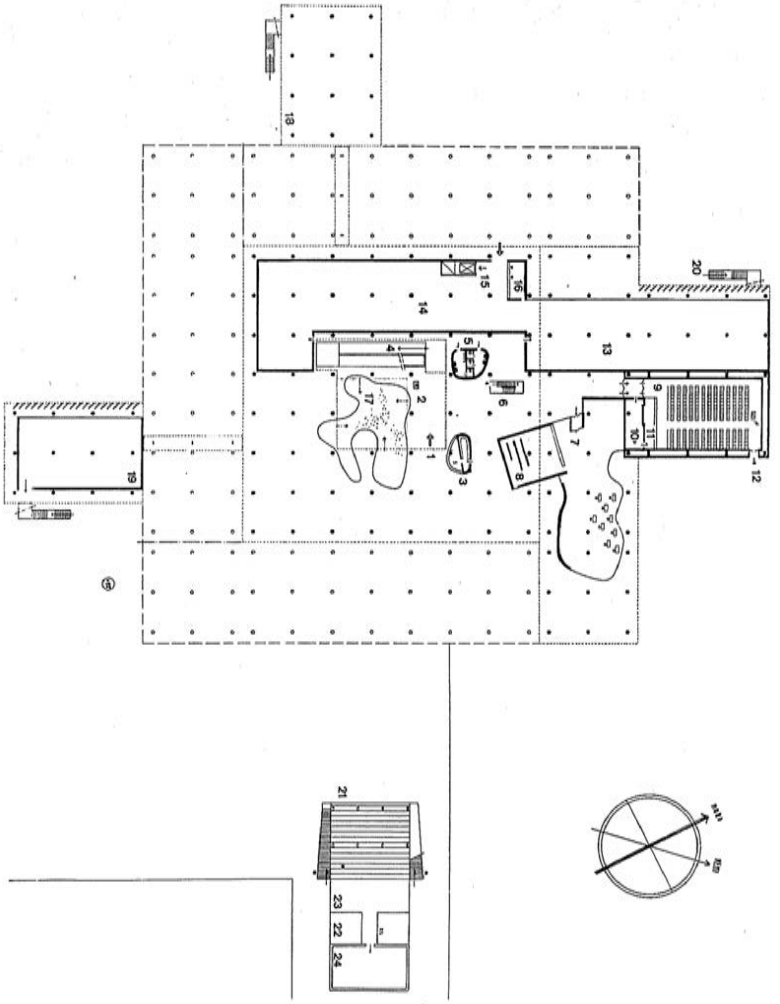
Sanskar Kendra Museum
Le Corbusier
1956

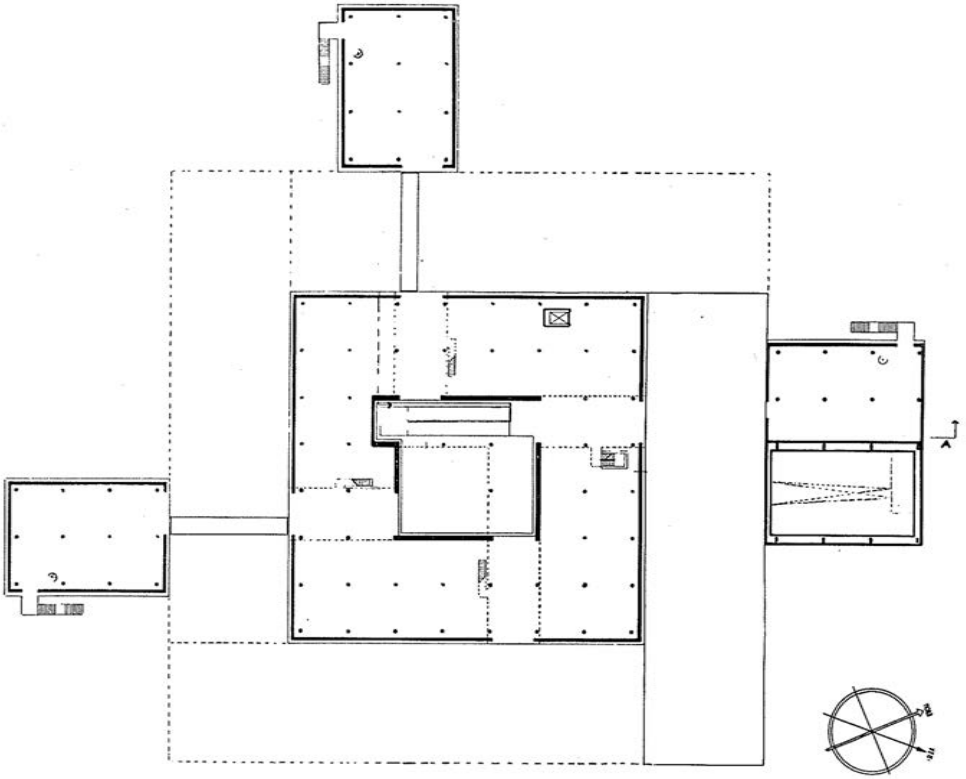
Das Museum steht auf Säulen: man gelangt unter dem Gebäude in einen offenen Hof, von dem eine ebenfalls offene Rampe zu den Etagen führt. Die Etagen sind durch Pfeiler von 7x7 Meter Abstand, die ein Doppelschiff bilden, getragen. Gegen die hohen Tagestemperaturen sind alle notwendigen Schutzmassnahmen getroffen worden. Man ging davon aus, dass die Besuche besonders abends und nachts stattfinden; sie werden auf dem Dach fortgesetzt, das einen herrlichen Garten, bestehend aus mehr als 45 Bassins, bildet. Jedes Bassin von 50 qm Oberfläche ist 40 cm tief mit Wasser gefüllt. Dichte Vegetation schützt das Wasser vor dem Verdunsten in der glühenden Sonne. Blatt- und Blütenpflanzen, die direkt auf das Wasser gesät wurden, bilden ein blau-rot-grün-weiss-gelbes Schachbrett. Das Wasser der Bassins wird durch ein spezielles Pulver gedüngt, das ein ausserordentliches, vom natürlichen Rhythmus unabhängiges Wachstum hervorbringt: riesige Blumen, riesige Tomaten, riesige Kürbisse [...]
Einer der Vorteile dieses Gebäudes liegt in der geringen Höhe der Pfeiler, deren Decke 3.40 m über dem Erdgeschoss liegt und deren freier Durchgang ringsherum 2.50 m beträgt. Man beachte im Schnitt die räumliche Geschlossenheit. Rings um das Gebäude ziert ein betonierter Blumenbehälter die Fassaden; die Kletterpflanzen bieten einen natürlichen Hitzeschutz. Einem sehr gewissenhaften Unternehmer war es gelungen, einen sauberen Rohbeton herzustellen. Da in Indien fast kein Schalholz zur Verfügung steht, wurden Blechplatten als Schalmaterial verwendet. Le Corbusier hat diesen Umstand benützt, um die Struktur des Schalmaterials als neues architektonisches Element zu zeigen. In den durch die Spiralform entstandenen Räumen des Doppelschiffs sind die Innenwände der Fassaden weiss verputzt, während die Innenseite der den Hof umschliessenden Mauern aus unverputzten Backsteinen besteht. Wie man weiss, kann das Museum zwar nicht unbeschränkt, aber doch von 50x50 m (2500 m2) auf 84x84 m (7000 qm) vergrössert werden dank seiner Konstruktion aus standardisierten Elementen.

Willy Boesiger, *Le Corbusier et son atelier rue de Sèvres 35. Oeuvre complète 1952-1957*, Zürich 1957

Plan du rez-de-chaussée:

1 Entrée du public
2 Caisse
3 Kiosque et vente de reproductions d'art
4 Rampe d'accès au Musée
5 WC public
6 Escalier menant au bureau du conservateur
7 Bibliothèque
8 Dépôt des livres
9 Salle de conférences
10 Salle du conférencier
11 Estrade
12 Sortie de secours
13 Atelier de préparation des expositions
14 Dépôt des collections du musée
15 Monte-charge
16 Bureau de réception des marchandises
17 Bassin
18 Annexe anthropologie
19 Archéologie
20 Escalier d'accès à l'annexe d'histoire naturelle
21 Théâtre en plein air
22 Scène
23 Orchestre
24 Salle d'habillage des artistes



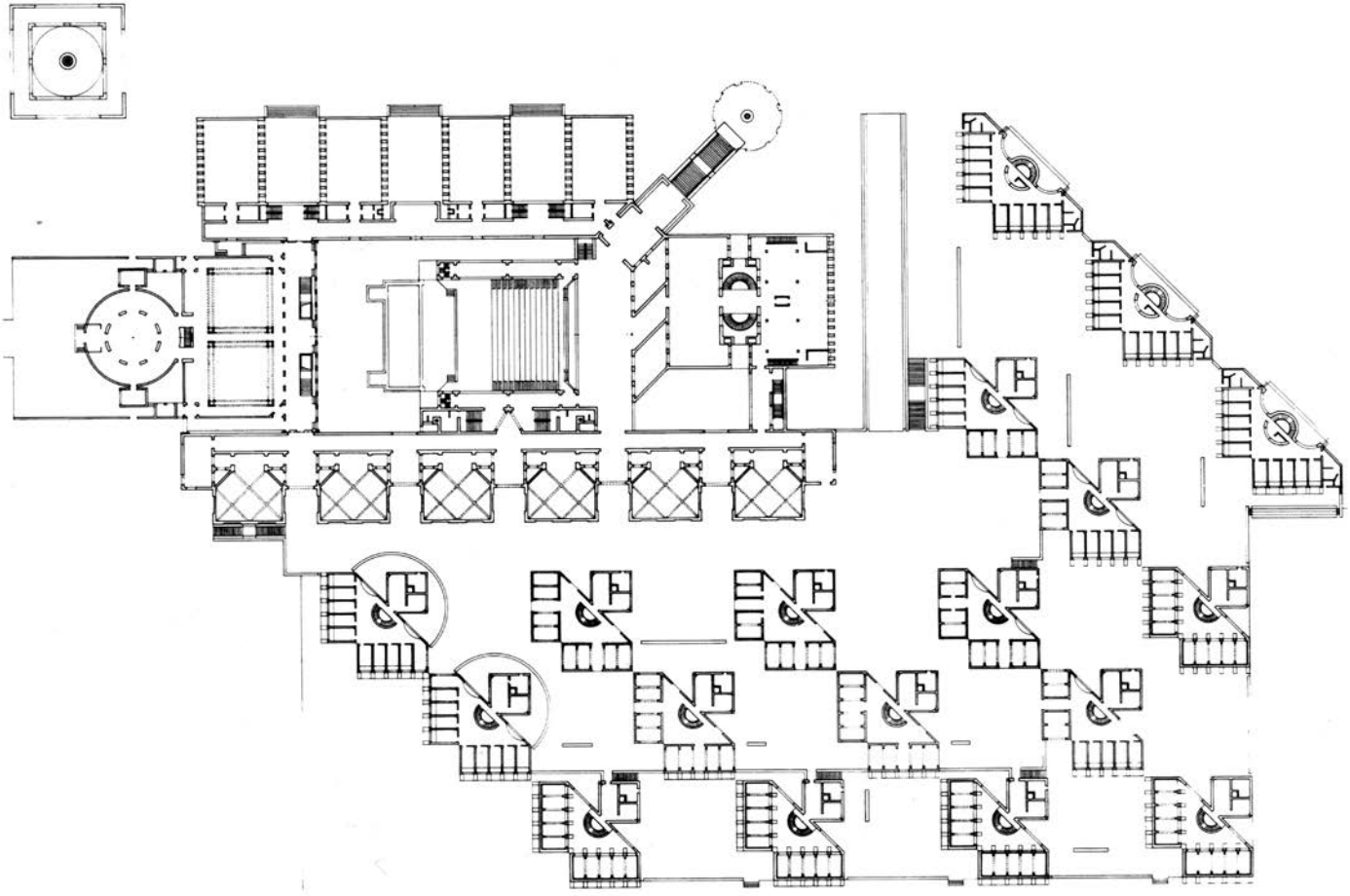


Indian Institute of Management
Louis I. Kahn
1962-1975

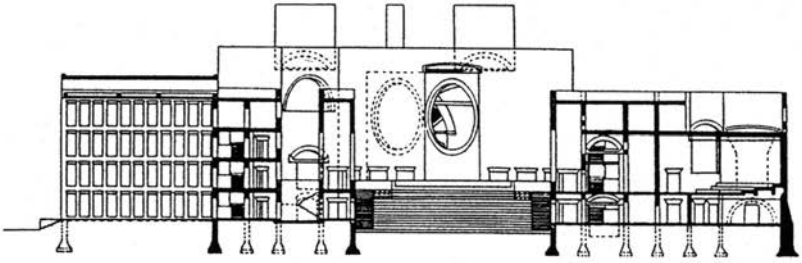
Louis Kahn of America (1901-74), like Le Corbusier brought a great change in Indian architecture. His main project was the National Assembly Hall of Bangladesh. If Le Corbusier's three-dimensional style blended with traditional Indian architecture, then Louis Kahn's pure geometrical shapes blended well with traditional Islamic architecture. This university building was not out of place in Ahmedabad where Islamic flavor is strong. Originally Balkrishna Doshi was supposed to have designed this building. But he believed that a creation of Kahn's would be better in the Indian architectural scene and hence invited him to design it and co-operated with him. Kahn rose to the occasion, using less expensive material like concrete and bricks and using unskilled labor, he created an orderly architectural piece of high quality.

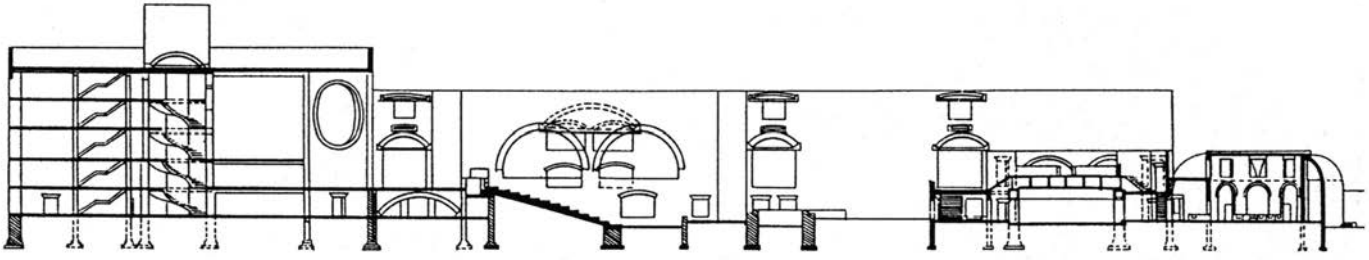
In Kahn's design for the Indian Institute of Management, a residential educational complex, he was able to join two of his most fundamental sources of inspiration: the school and the monastery. Stages in the overall design of the Institute and the main classroom building are shown here. Kahn typically began with a square plan for the central classroom building, setting the dormitories and faculty housing in long diagonal rows so as to allow ventilation by the prevailing breezes. The orientation of these last elements were shifted 90 degrees on the recommendation of Kahn's associate architect Balkrishna Doshi and as a result of Kahn's personal research into Indian precedents, such as the palaces at Fatehpur Sikri. While the initial schemes for the classroom building were monolithic, only opening at the corners for ventilation, Kahn later evolved the individual room-buildings - class-rooms, faculty offices, library, dining hall - as independent, geometrically pure volumes, separated and joined by covered breezeways. In the final design, the dormitories make a series of urban spaces and the entire complex is experienced as a city in miniature.

Takeo Kamiya, *The Guide to The Architecture of The Indian Subcontinent*, Goa, 2003

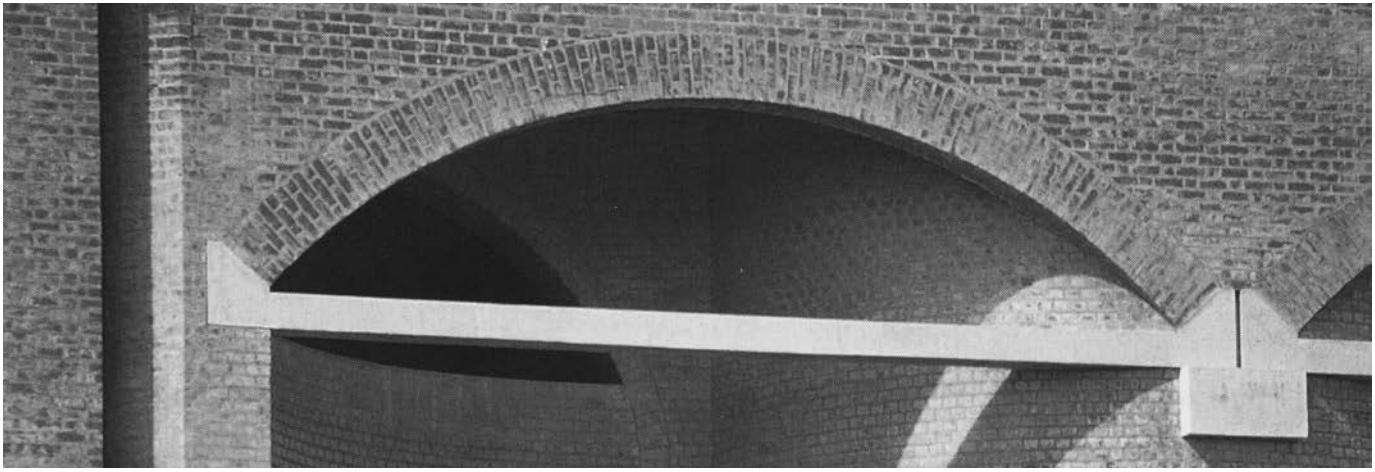


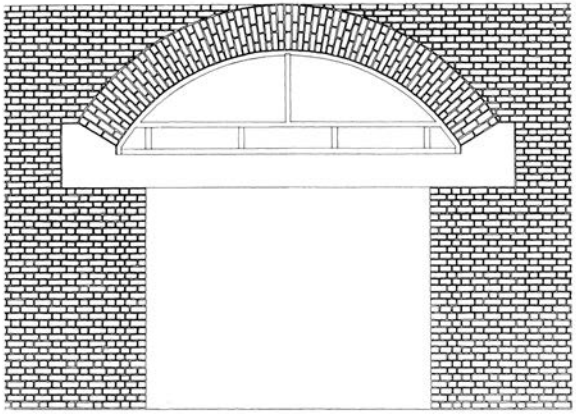
Grundriss der geplanten Anlage



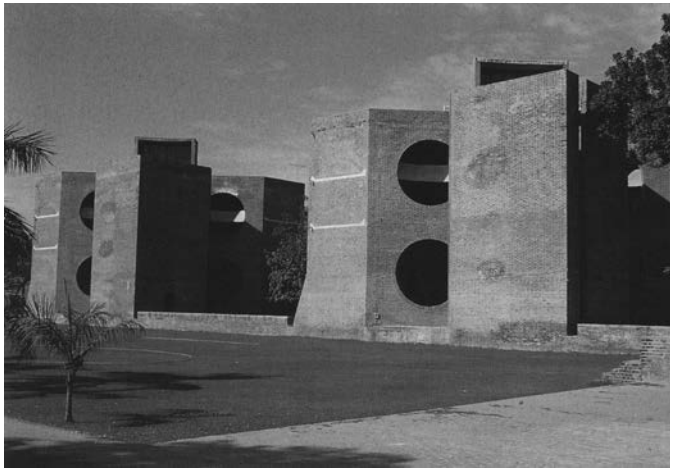


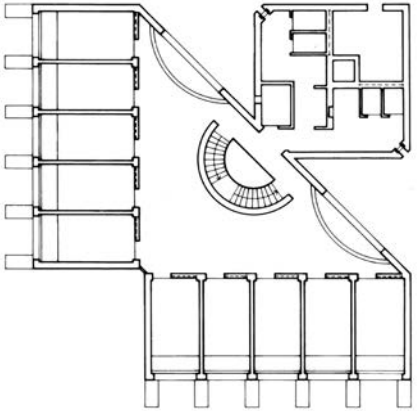
Schnitte der geplanten Anlage



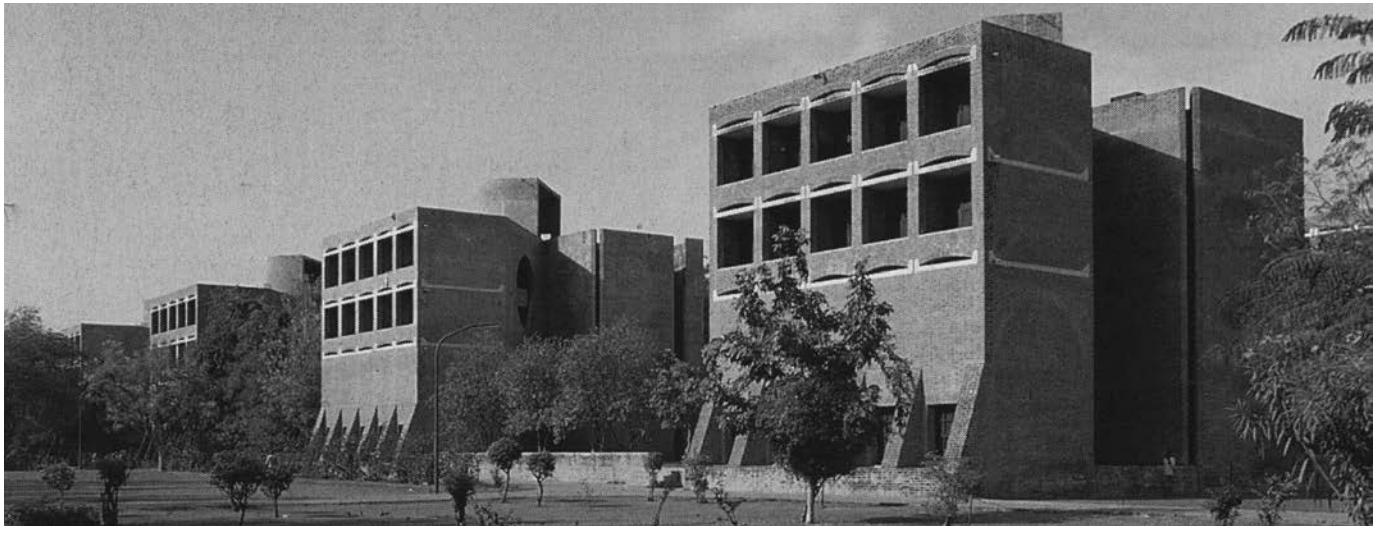


Ansicht des Hauptportals

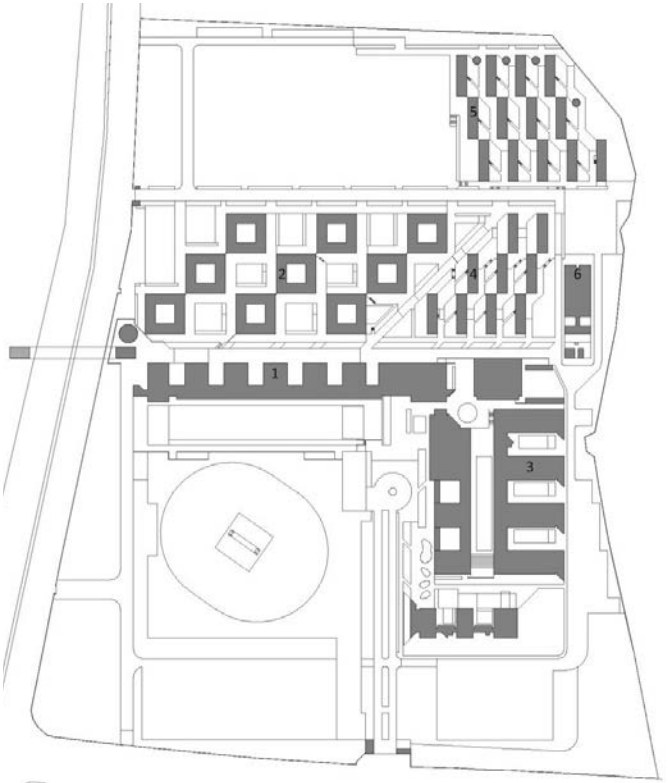




Grundriss Studentenunterkünfte



New Indian Institute of Management
Bimal Patel
2001-2009



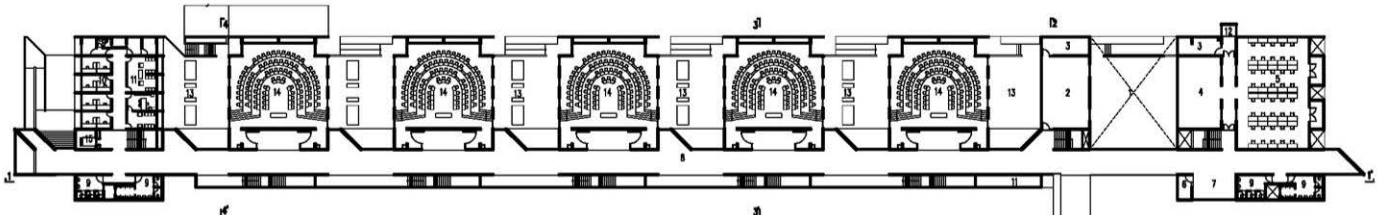
Indian Institute of Management, Ahmedabad (IIMA), an institute of international repute devoted to management education, announced an architectural competition for its extension in 1999. This new campus was to be built on the adjacent plot separated from the original campus by a road. After the initial application phase, ten firms were invited for the first and three for the second phase and finally HCP Design, Planning and Management (HCPDPM) was awarded the project. HCPDPM has over fifty years of experience in architecture, urban design, project management and interior design. It was founded by Hasmukh C. Patel in 1960, and is now led by his son, Bimal Patel. The design philosophy is modernist, driven to clearly identifying the 'practical problem' that needs solving to make buildings comfortable and pleasurable.

The new campus is accommodated in a 39 acre site and includes facilities like 9 dormitories for 340 students; an academic block with 5 classrooms and seminar rooms; administrative facilities; IMDC Hostels; 22 blocks for married students; 6 VIP suites; a sports complex; kitchen & dining facilities; a CIIE Block and 100 guestrooms. The public areas are designed to be accessible to the disabled and adequate land has been demarcated for future expansion.

The architecture of the new campus maintains a consistency with the abstraction of forms and geometric rigor. Like in Kahn's campus, learning and living in the new campus is successfully integrated and the focus is placed on circulation by using elevated corridors as principal ordering devices. However, the spatial organization of the new campus is more compact. All individual buildings work as a continuum between the inside and the outside, enabling multiple walking routes between and through buildings to reach any destination. Such an arrangement enlivens the experience of moving about in the campus by allowing more chance encounters between the inhabitants while also offering views of gardens, large trees and a water pool. The play of light and shadow creates a variety that renews the appearance of the buildings continuously throughout the day.

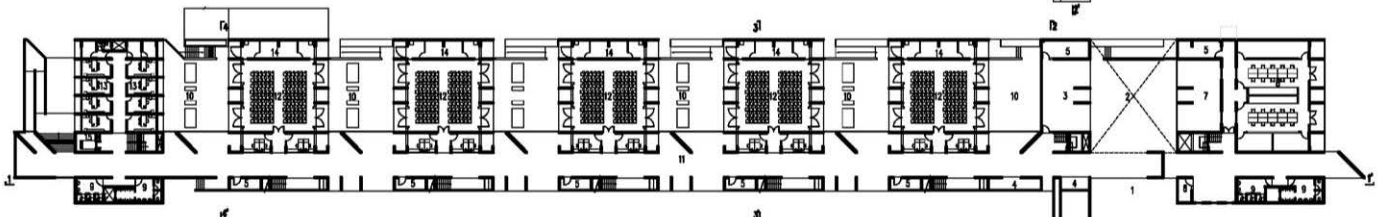
[...]

www.posts.architecturelive.in



FIRST FLOOR PLAN

1 ENTRANCE FOYER (BELOW)
2 SYNDICATE ROOM
3 STORE
4 MEETING ROOM
5 RESEARCH SCHOLARS
6 PANTRY
7 VERANDAH
8 CORRIDOR
9 TOILET
10 FACULTY ROOM
11 FACULTY LOUNGE
12 BALCONY
13 COURTYARD
14 CLASS ROOM
15 LIFT WELL



GROUND FLOOR PLAN

1 ENTRANCE PLAZA
2 ENTRANCE FOYER & EXHIBITION SPACE
3 BOOK STORE
4 ROOM
5 STORE
6 ELECTRICAL ROOM
7 EXHIBITION SPACE
8 WORKING SPACE
9 TOILET
10 COURTYARD
11 CORRIDOR
12 SEMINAR ROOM
13 FACULTY ROOM
14 JUKU ROOM
15 LIFT WELL

0 1 5 10 20M

To be printed in scale: 1: 800

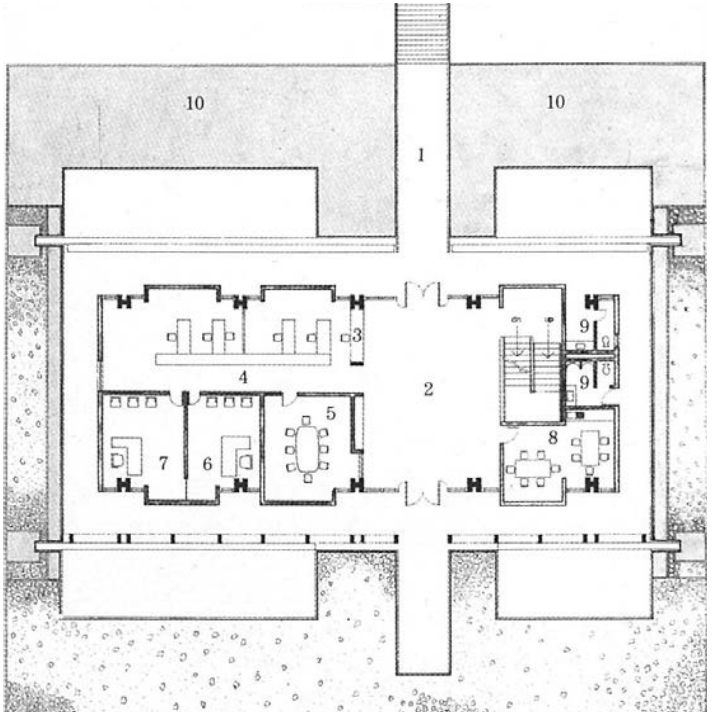
Institute of Indology
Balkrishna Vithaldas Doshi
1957-1962

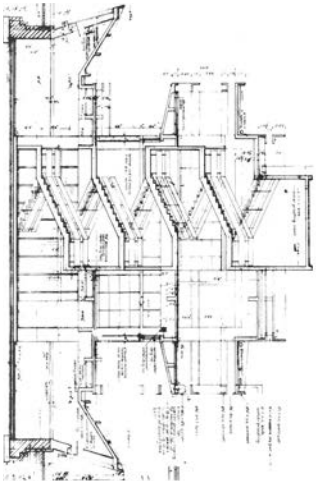
In the mid-1950s Kasturbhai Lalbhai was approached by Muniji Punyavijaiji Maharaj, a Jain monk, who wished to donate a superb collection of ancient manuscripts on condition that they would be housed and preserved properly. Lalbhai responded positively and the idea expanded to include a research institute with (eventually) a museum. The Ahmedabad Education Society donated a 3.7 hectare plot close to Gujarat University and Doshi was invited to supply a design.

Traditionally the old texts were stored in the basements beneath temples. For the new building there was no question of using air-conditioning as this would soon have destroyed the manuscripts. Doshi therefore placed the library half underground, letting indirect light in through angled windows, and reflecting it off a pond of water that was also to help insulate. The main level was thus half a storey above ground and was approached by a raised bridge over the moat. The upper floor was made to cantilever over the walkways beneath and to contain teaching rooms. In turn it was supplied with a deep verandah to protect it from the sun. Doshi had seen the old Jain apashraya in Ahmedabad which also stood on a plinth and also had an overhanging balcony under a shading roof. However, in the Institute of Indology, the idea was crossbred with Le Corbusier's principle of the reinforced concrete parasol (viz. Shodhan House).

It is certain that Doshi was also reacting to the deep-cut ledges, overhangs and rows of pillars of traditional Gujarati building such as the old mosques of Ahmedabad or the palace complex at Sarkhej. The Institute of Indology is an attempt at defining an architecture appropriate to Indian climate, on the basis of both a contemporary structural instrument - the concrete frame - and schemes of order with an ancient pedigree in the Ahmedabad region.

William J. R. Curtis, *Balkrishna Doshi. An Architecture for India*, New York 1988



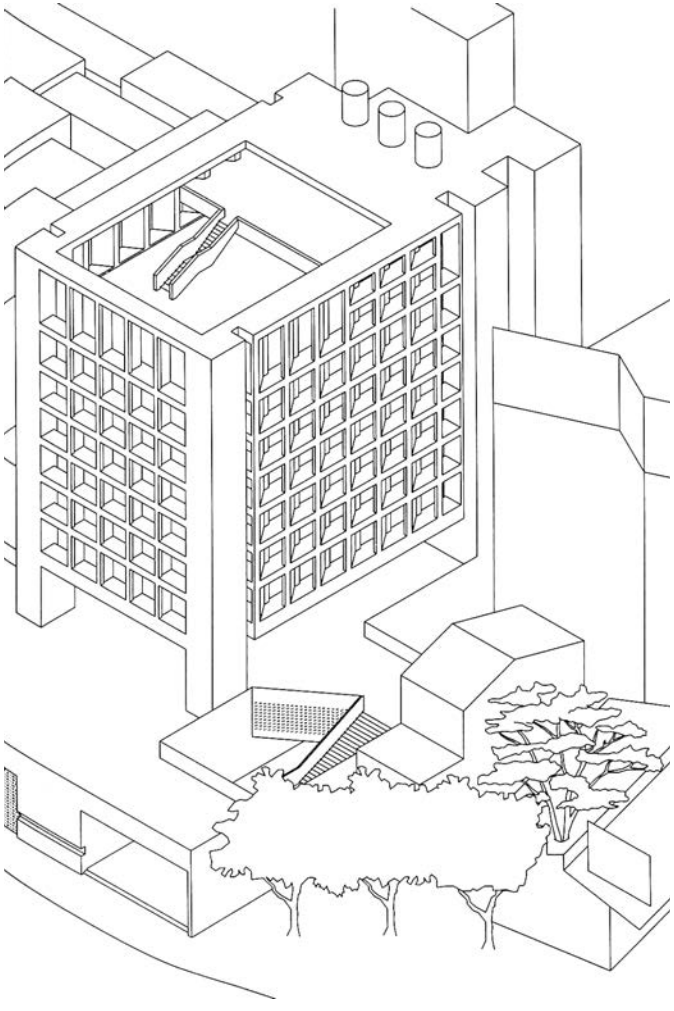


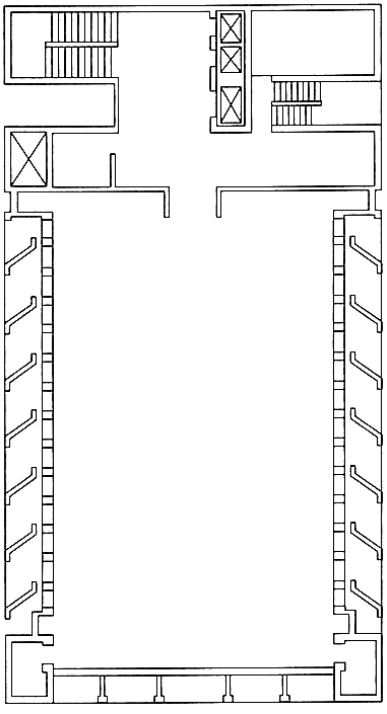
1. Entrance bridge
2. Entrance & exhibition hall
3. Reception
4. General office(staff)
5. Meeting room
6. Curator
7. Director's office
8. Pantry & lunch room
9. Toilet
10. Water body

Central Bank of India
Balkrishna Vithaldas Doshi und Mahendra Raj
1962-1964

The Central Bank of India sits on the corner of one of the most important road junctions in Ahmedabad. You are bound to pass this iconic building sooner or later when exploring Ahmedabad from the back of a rickshaw. It is located between the east bank of the river, the New City, and the entrance to the Old City. The building sets itself apart from its surroundings with its massive concrete presence. On the ground floor there are customer services and ATM facilities. The next level houses a cafeteria. Above this are six more floors of offices, screened by concrete brise-soleil elements. This facade creates the urban identity of the tall building.

Ruby Press, *Architecture Reading Aid Ahmedabad,* Berlin 2015





C.E.P.T. School of Architecture
Balkrishna Vithaldas Doshi
1966-1968

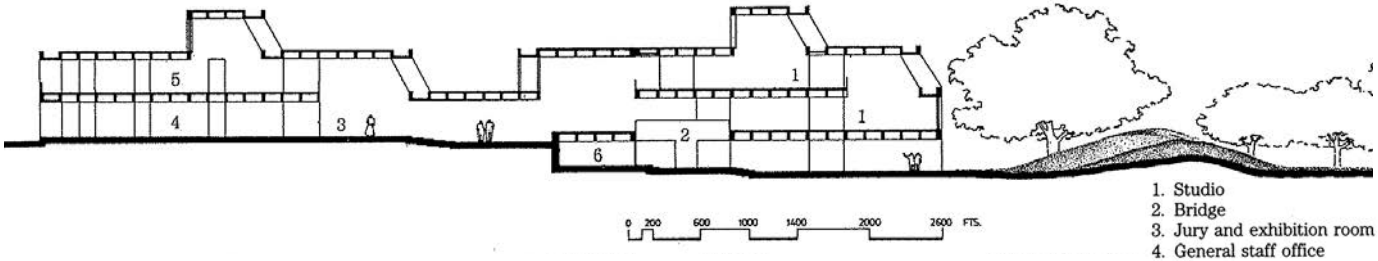
The School of Architecture contains studios and teaching spaces for multiple uses. It stands on a site in the middle of Gujarat University and can be approached from all sides. The structure of 1966-68 was the first stage in a much more ambitious undertaking - an entire design campus including further studios, a library, an exhibition area and facilities for painting and sculpture - the whole, to be called the Centre for Environmental Planning and Technology (CEPT).

Doshi decided upon a simple structure of parallel brick walls, concrete beams and floors, a system that was extendable and easy to maintain. He wished to maximise the flow of air while cutting down the impact of the sun, and as in his earlier ATIRA and peons' housing he decided upon a north-south orientation of parallel bays. Interiors were shaded from the glare and the heat by deep apertures. Interiors were flexible - double-height for airy drawing studios, single-height for discussion groups or class-rooms. The design was cut to the bone to ensure a low cost and easy upkeep. Doshi compared it to a functional factory building.

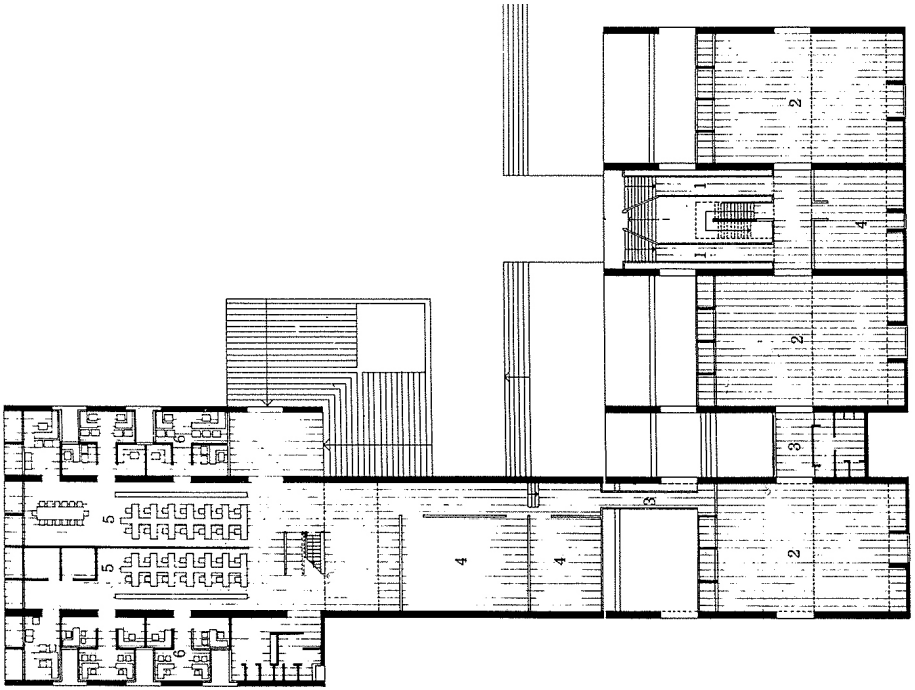
In his original statement of purpose Doshi stressed that the School of Architecture should be „an open place with hardly any doors". He also spoke of „no feeling of restriction to the exchange of ideas" and of the faculty and students having „free scope to teach and learn anywhere". As in his contemporary housing schemes, Doshi tried to activate the „spaces between" with a variety of steps and interlocking platforms. The narrow route running from the north side can be compared to the tight alleyway leading into an old Ahmedabad pol or urban quarter. After a constricted entrance the space expands into a precinct equivalent of an old city square or chowk.

In his own house Doshi had experimented with plain brick walls; in the Institute of Indology he had used over-hanging slabs and verandahs based upon concrete cantilevers. In the School of Architecture he combined both. The school building adds the influence of Louis Kahn to that of Le Corbusier; it also underlines Doshi's commitment to structure as a generator of form. The complex section and spatial vitality of the sequences hint at Doshi's emerging personal expression. [...]

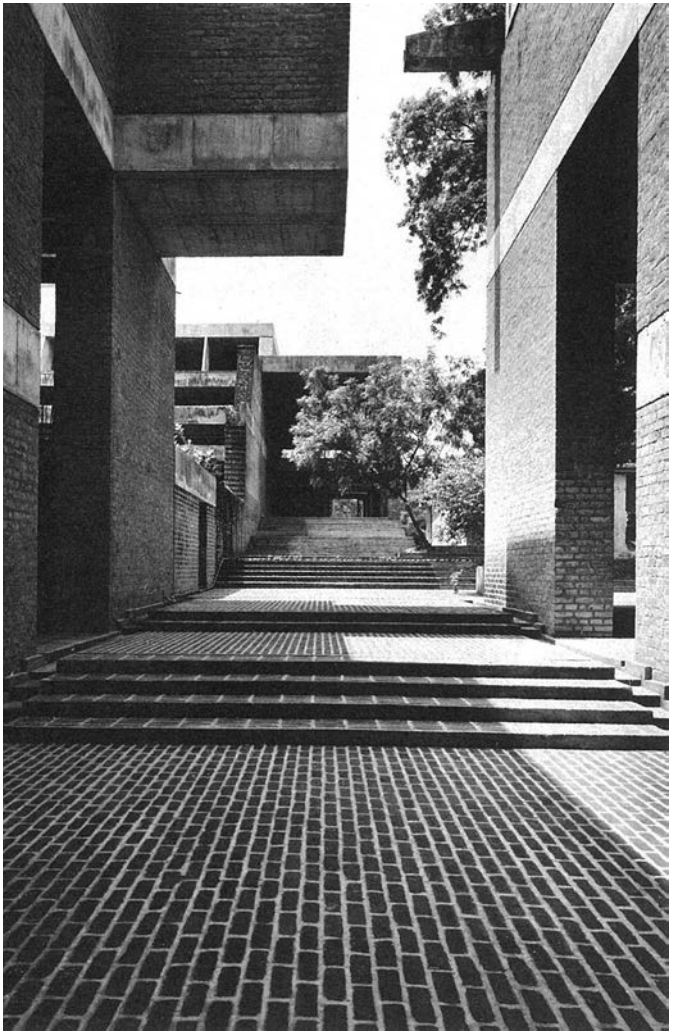
William J. R. Curtis, *Balkrishna Doshi. An Architecture for India*, New York 1988

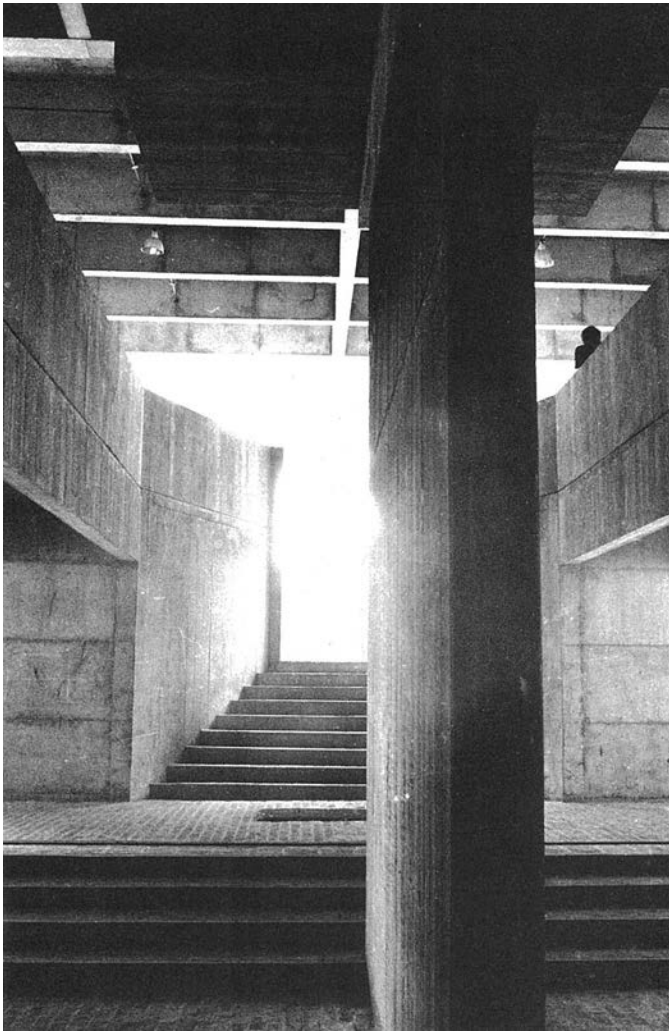


1. Studio
2. Bridge
3. Jury and exhibition room
4. General staff office
5. Library
6. Store



1. Bridge & stair access
2. Studios
3. Bridge
4. Jury & exhibition room
5. General staff office
6. Faculty office

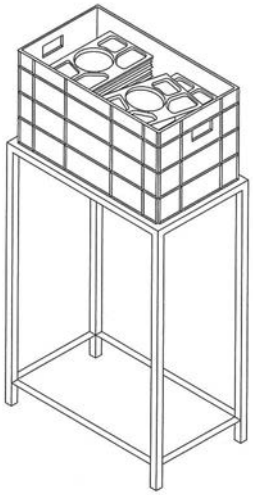




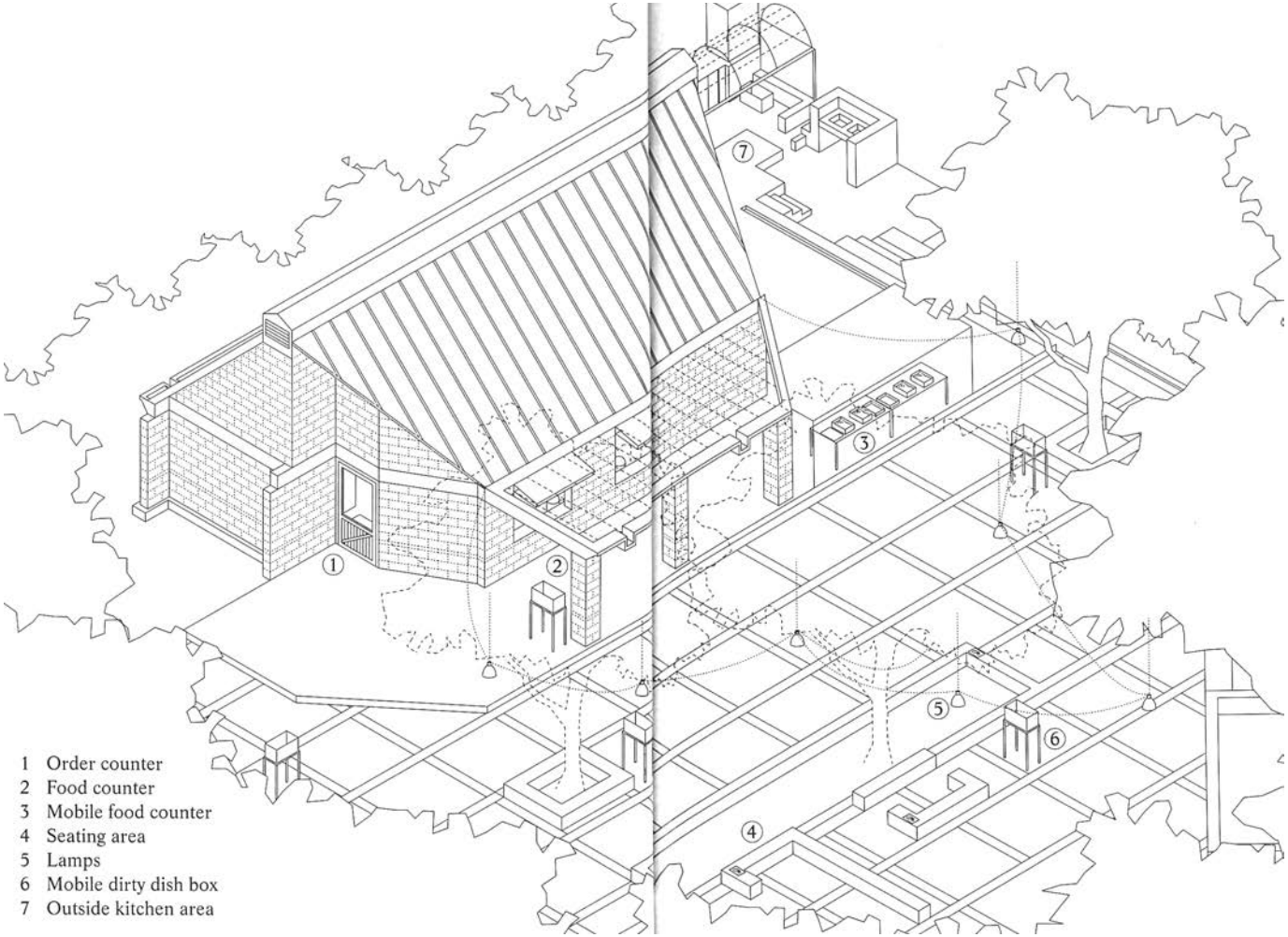
Artist`s studios near the School of Architecture

C.E.P.T. Cafeteria
Balkrishna Vithaldas Doshi
1968

During their lunch break, many students queue up in front of the yellow door at the cafeteria. They pay for their lunch and are given a receipt to be redeemed at one of the other windows. While waiting they watch the cooks preparing their food. At the back there is an additional outside kitchen. There are lots of low walls where you can eat your lunch and chat under the leafy canopy. When you have finished the delicious lunch you put your dishes in one of the blue boxes. They stand there during opening hours and form the outside part of the cafeteria. In the evening, lamps hanging in the trees provide illumination.



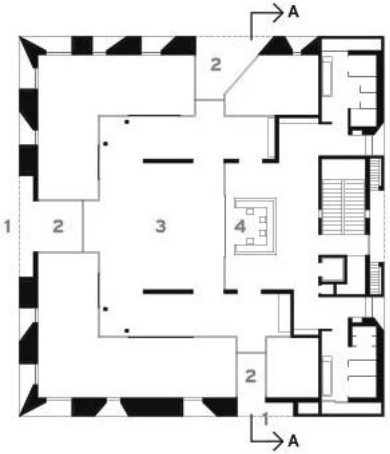
Ruby Press, *Architecture Reading Aid Ahmedabad,* Berlin 2015


1 Order counter
2 Food counter
3 Mobile food counter
4 Seating area
5 Lamps
6 Mobile dirty dish box
7 Outside kitchen area

C.E.P.T. Lilavati Lalbhai Bibliothek
Rahul Mehrotra
2017

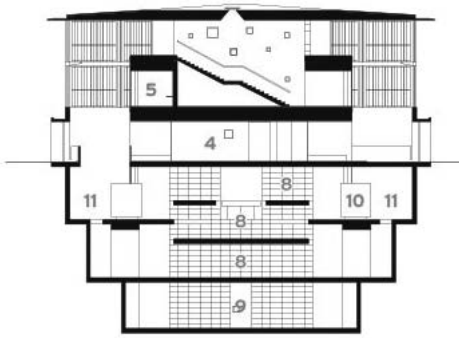
The Centre for Environmental Planning and Technology (CEPT), in Ahmedabad holds a special place in the hearts and minds of the generations of architects who have studied there since the school's beginnings in the early 1960s. Designed by famed Indian architect Balkrishna Doshi, now age 90, who served as the CEPT's first director, the collection of mostly 1970s buildings are highly indebted to Le Corbusier and Louis Kahn - who both left their mark on the western Indian city. The complex is exposed brick and concrete and has an expressed solidity and rigorous structural logic, according to Rahul Mehrotra, a CEPT alum and founder of RMA Architects.
His Mumbai- and Boston-based firm was invited to build CEPT`s new Lilavati Lalbhai Library, which opened this past October.

www.architecturalrecord.com



GROUND-FLOOR PLAN 0 16 FT. 5 M.

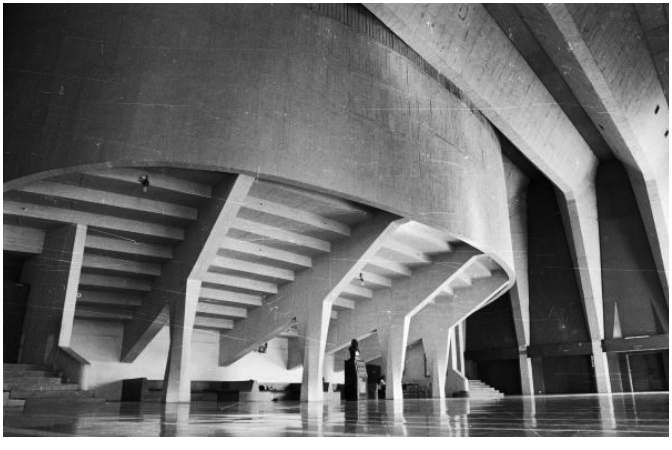
1 ENTRANCE
2 BRIDGE
3 EXHIBITION
4 RECEPTION
5 READING ROOM
6 SERVICE
7 COVERED TERRACE
8 BOOK CORE
9 ARCHIVES
10 CARREL
11 OUTDOOR TERRACE



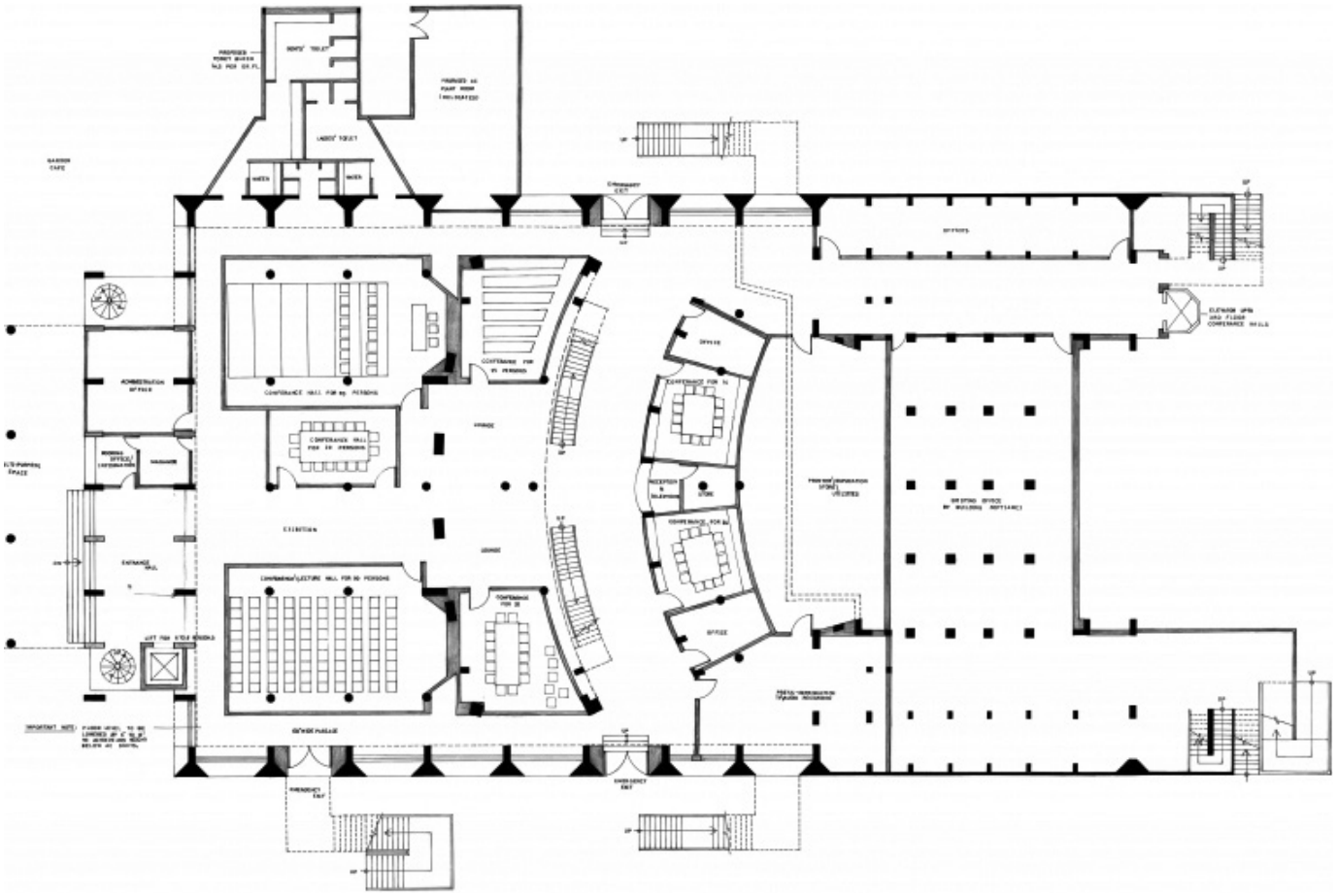
SECTION A - A

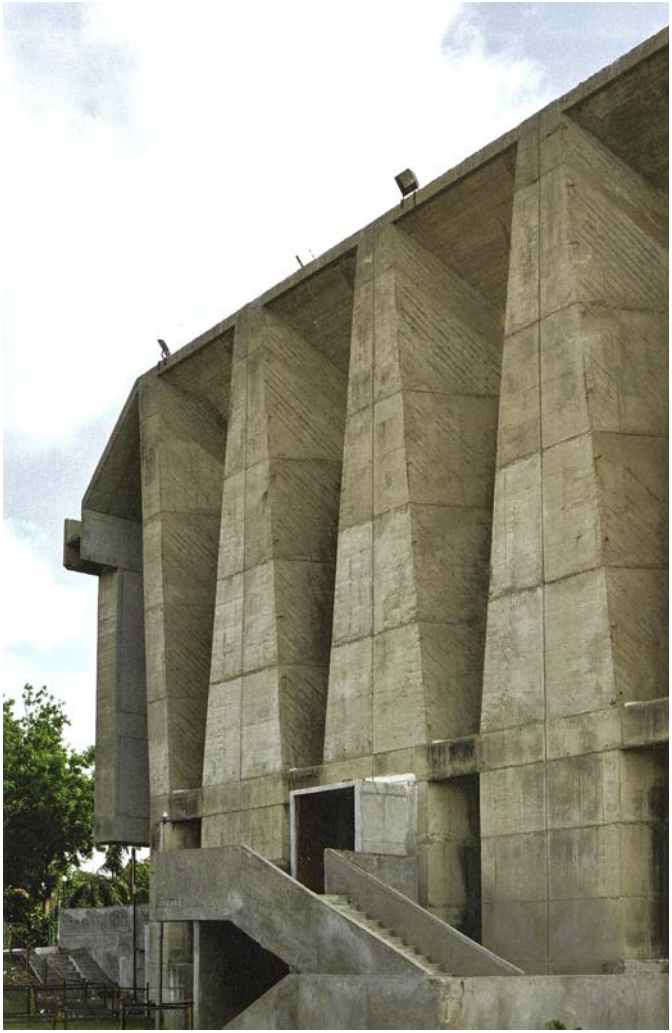
Tagore Hall
Balkrishna Vithaldas Doshi und Mahendra Raj
1966-1971

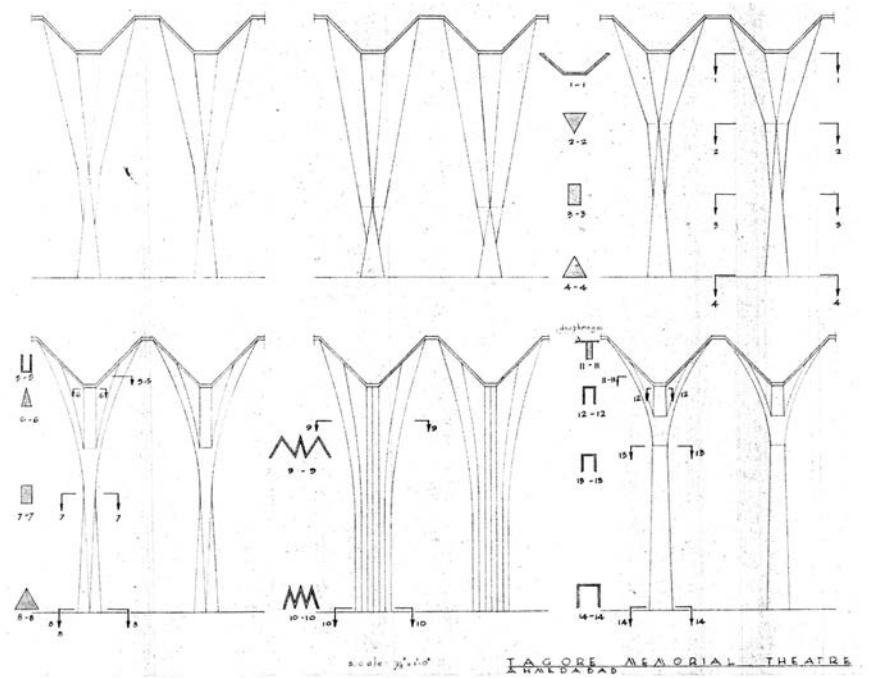
Located on the banks of the Sabarmati River, the Tagore auditorium is only a few hundred metres from Sanskar Kendra, the museum that Le Corbusier designed in Ahmedabad. The sandy soil of the riverbed and the presence of the ‚master's` architectural work as the context of this building, for the architect and the engineer were the two main challenges in the initial conceptualisation of the building, recalls Mahendra Raj.
He adds, ‚There were different concepts, expressing possible columns, plates, etc. The final concept evolved after a number of studies. When we tried to evaluate them, we used manual calculations for deriving the dimensions. Of course without dimensions, there can be no studies.'
Finally, a series of rigid frames in folded reinforced concrete plates was used as the outer shell of this hall. The structural elegance and efficiency is the result of carefully proportioned trapezoidal folds whose angles and plate thickness vary according to the stresses, moments and forces. The depth of the vertical folds is equal to the horizontal folds where they meet at the top, decreasing towards the ground. To achieve the vertical taper, the width of the inner plate was kept constant in the vertical fold while that of the outer plate was increased.
Vertical folds are 17 metres high, with a constant depth of 1.15 metres up to the lintel level, increasing to 2.4 metres at the top. The horizontal roof folds are 2.4 metres deep, and as they span 33.5 metres, the thickness of the folded plates varies from 10cm to 15cm, increasing near the supports. The lateral forces generated by the frame action of the vertical and horizontal folds is absorbed by ties at the foundation level.
Inside the hall the 700-person seating bowl is supported on an independent structure at the back and is expressed in the foyer area. The sculptural columns and cantilevers of this bowl echo the folded plates of the enclosure while also expressing the lines of forces and moments of its own load.
The hall is supported on individual and strip-footings resting on a sandy river-bed stratum.



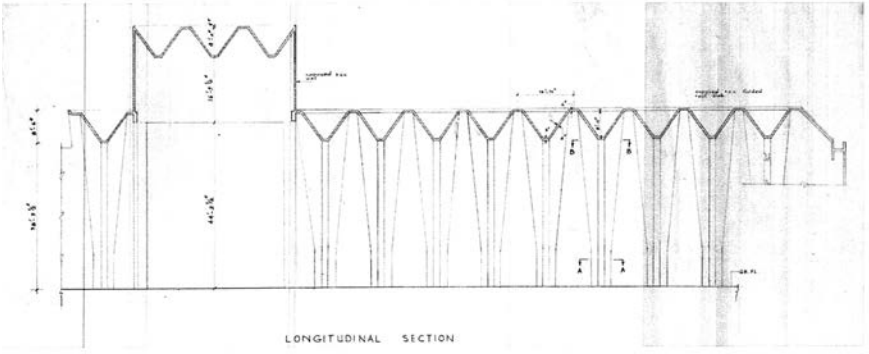
Vandini Mehta, Rohit Raj Mehndiratta, Ariel Huber, *The Structure Works of Mahendra Raj*, Zürich 2016







TAGORE MEMORIAL THEATRE
AHMEDABAD



LONGITUDINAL SECTION

Premabhai Hall
Balkrishna Vithaldas Doshi und Mahendra Raj
1956-1972

Premabhai Hall houses the Gujarat Vidyasabha, an institution of national repute, and is also used for other performing arts than theatre. The building represents one of Doshi's rare explorations of civic monumentality. In it, concrete is used to create dramatic interlocking spaces, revealed light sources and robust, textured surfaces.

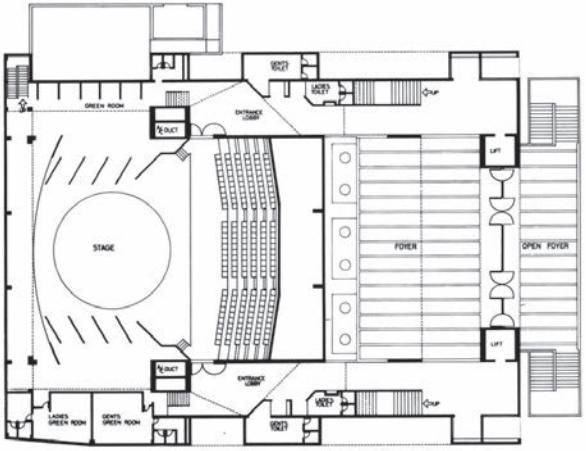
By the late 1950s Doshi already had experience of theatre design when he brought to completion the Tagore Theatre in Ahmedabad, the essential counterpart of Le Corbusier's city museum. The first version of Premabhai Hall was conceived in the same period as an egg-shaped lattice structure containing the auditorium. The idea was probably influenced by Buckminster Fuller's geodesic domes.

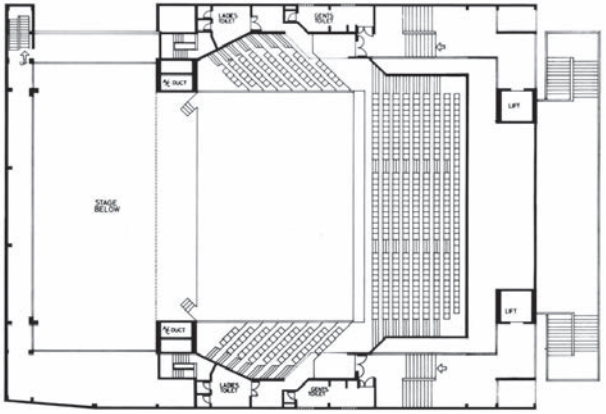
Later projects for Premabhai Hall were worked out in the 1960s and early 1970s as funds ebbed and flowed. Doshi now concentrated on a stepped section to contain the auditorium. At the back, cantilevered overhangs afforded a lobby of grand proportions, into which stairs and upper walkways protruded. In effect this was a formalised townscape, not unlike the ambiguous social spaces underneath the School of Architecture.

The site for Premabhai Hall is opposite a square and adjacent to a gate giving access to the streets of the old city. Doshi envisaged the main street facade of his building as cantilevered platforms extending towards the life and „urban theatre" (processions, etc.) of the thoroughfare. There should also have been neighbouring research offices three and four storeys high, linked by an upper walkway. These would have used a similar loggia vocabulary and have helped to integrate Premabhai Hall better into its surroundings. As it stands the Hall leaves the impression of being slightly stranded.

The interiors, by contrast, are rich. Doshi was evidently intrigued by the notion of public assembly and in some of his study sketches explored analogies between the floors of the theatre and stepped plazas, between the ceilings, and floating clouds. The stage curtain he designed himself: a homage to Le Corbusier's textile designs, but also a colourful complement to the vitality of Gujarati dance, music and drama. [...]

William J. R. Curtis, *Balkrishna Doshi. An Architecture for India*, New York 1988


GREEN ROOM
GENTS TOILET
LADIES TOILET
ENTRANCE LOBBY
AC DUCT
LIFT
STAGE
FOYER
OPEN FOYER
LIFT
AC DUCT
ENTRANCE LOBBY
WATER
LADIES GREEN ROOM
GENTS GREEN ROOM
WATER


LADIES TOILET
GENTS TOILET
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STAGE BELOW
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AC DUCT
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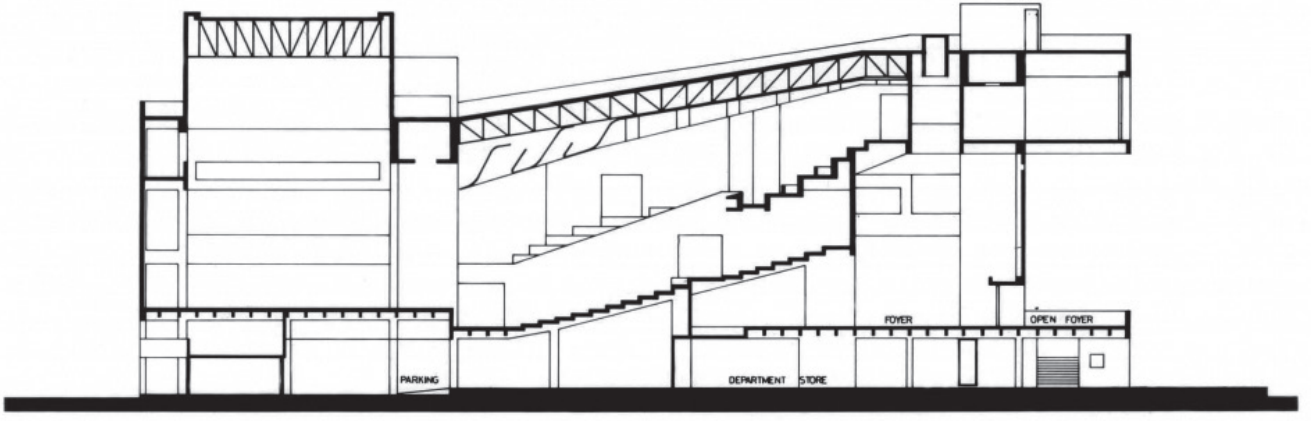
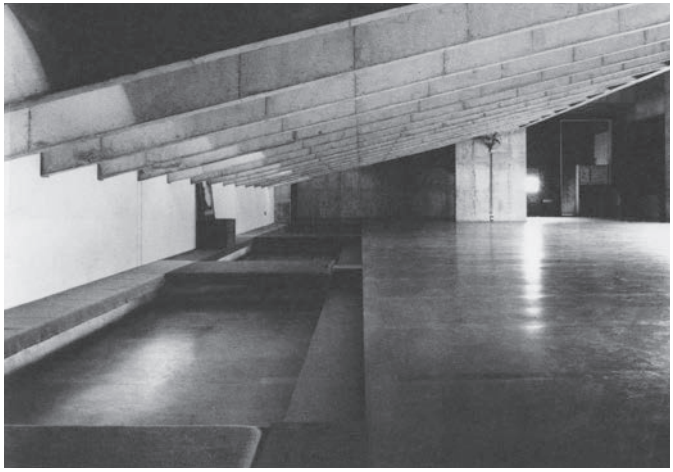
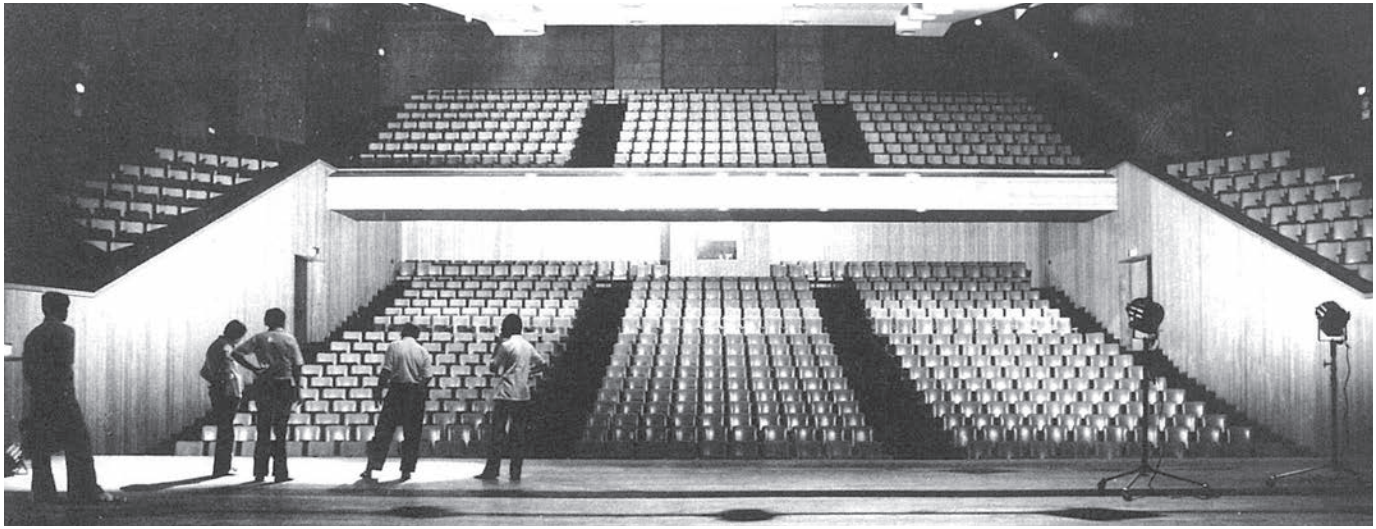
GENTS TOILET


PARKING
DEPARTMENT STORE
FOYER
OPEN FOYER





Sangath, Architect`s Studio
Balkrishna Vithaldas Doshi
1979-1981

In Sanskrit, Sangath means „moving together through participation", and Vastu Shilpa means „design of environment". More than just an architectural office, Sangath is a place for research and the exchange of ideas. The grass amphitheatre is sometimes used for lectures, meetings and concerts. In his original plans, Doshi even included ateliers for visiting artists. It was his own version of the atelier at 35, Rue de Sevres, perhaps, or of Wright's Taliesin.

Sangath is a fragment of Doshi's private dream: a microcosm of his intentions and obsessions. Inspired by the earth-hugging forms of the Indian vernacular, it also draws upon the vault suggestions of Le Corbusier. A warren of interiors derived from the traditional Indian city, it is also influenced by sources as diverse as Kahn, Aalto and Gaudi. A work of art stands on its own merits and Sangath possesses that indefinable quality of authenticity. Even local labourers and passing peasants like to come and sit next to it, enjoying the low mounds of the vaults or the water-jars overgrown with creepers.

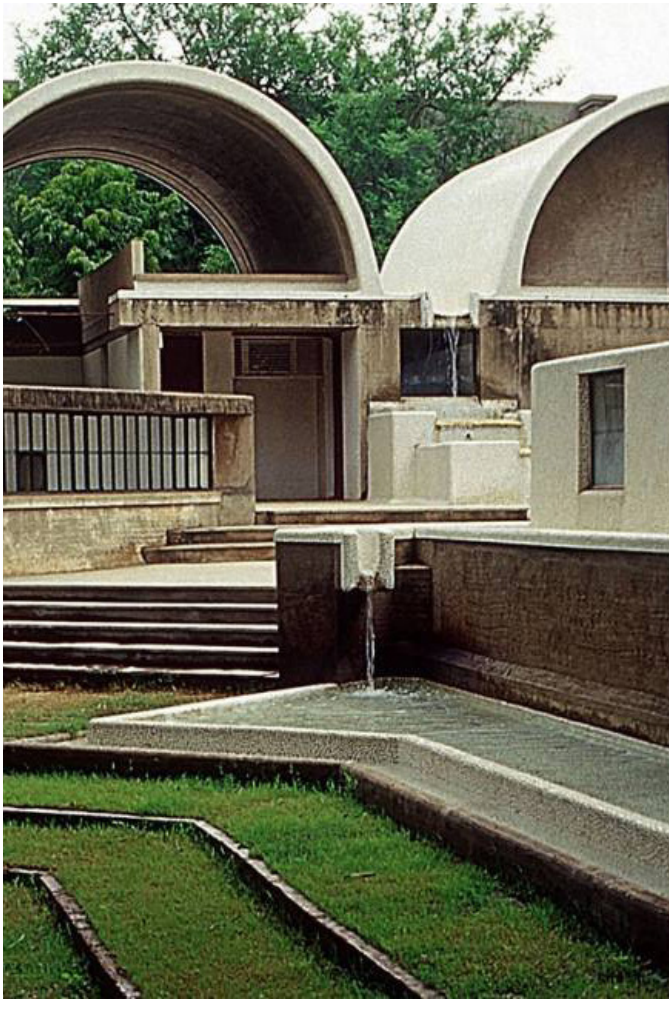
[...]

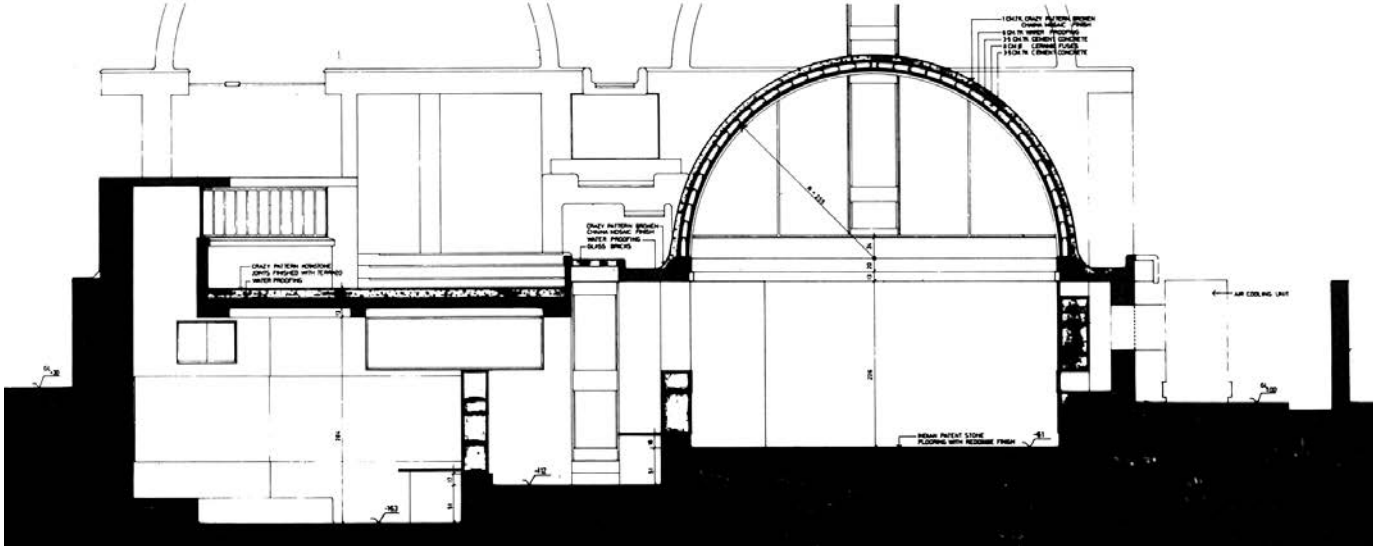
Doshi believes in establishing a strong rationale for a project based upon an analysis of climate, site, purpose and structure, but the actual search for form is intuitive and relies upon analogies, poetic connections and the store of impressions in the artist's memory. The generating ideas emerge as free-hand sketches on loose pieces of paper or in notebooks. For Sangath the earliest conceptions were of a subterranean community hooded by vaults, and of a village climbing up a hill.

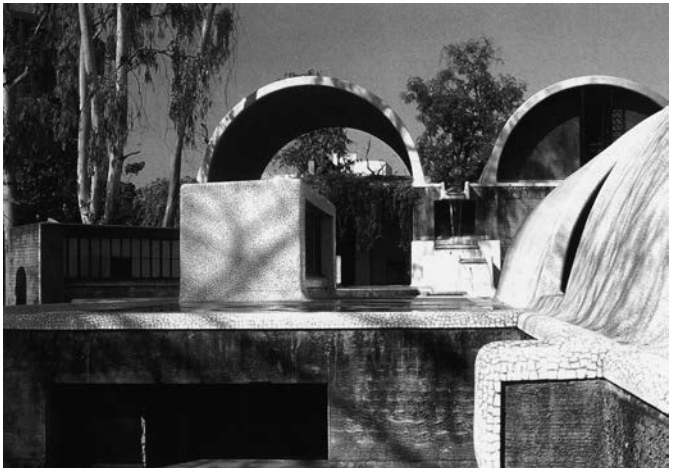
Once the main themes of a project are identified, they need to be tested. With Sangath it was basic to the whole idea that the studios should be laid out on a south-north line between gate and enclave. This orientation opened up a precinct to the Western side, which soon turned into the grassy steps of the amphitheatre. Doshi is always preoccupied with the main route up to and through his buildings (what Le Corbusier called la promenade architecturale), and at Sangath he was interested in an indirect approach to the back of the building, then forward again through the interiors.

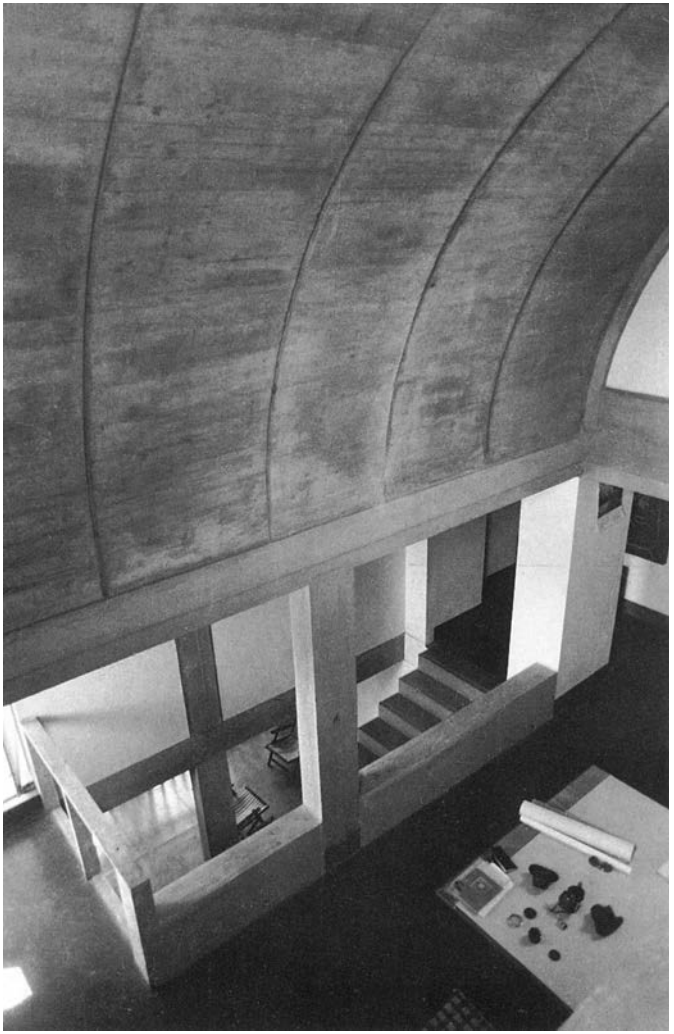
[...]

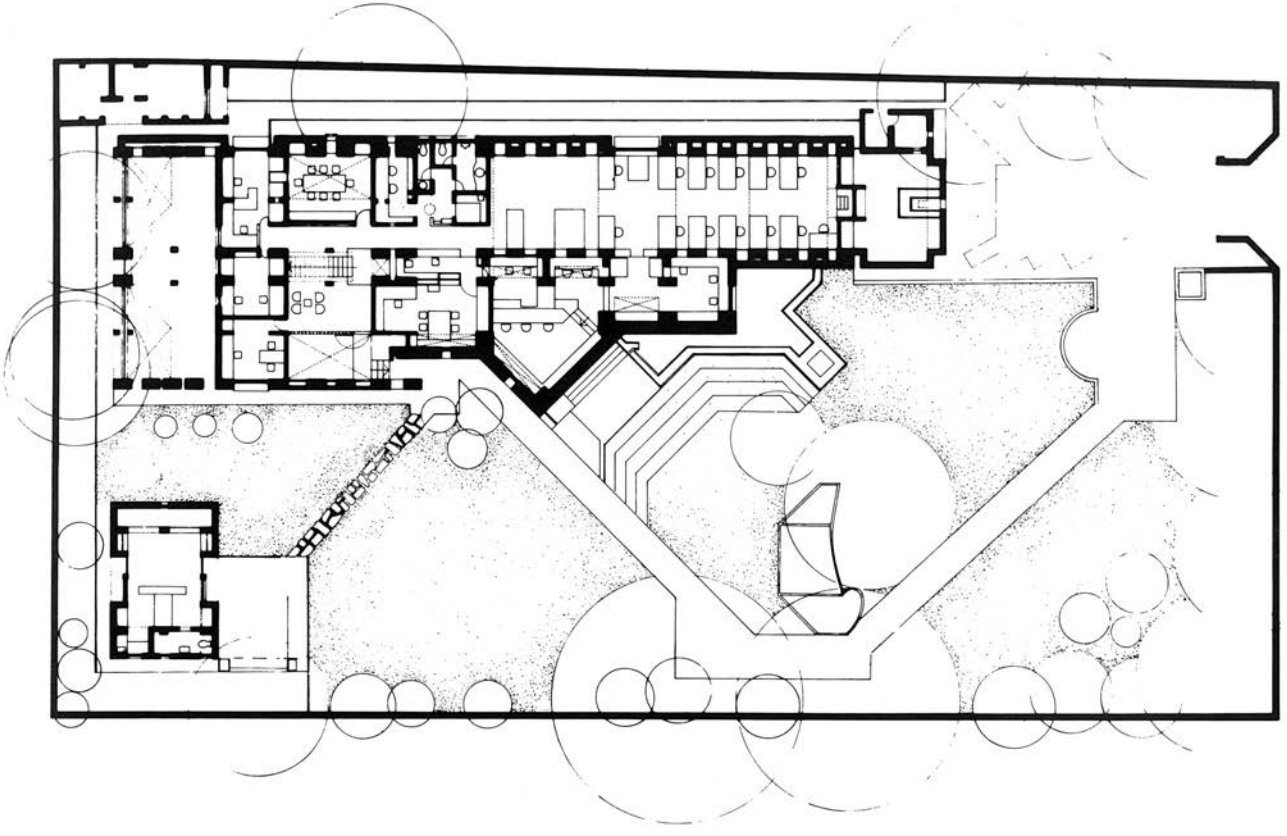
William J. R. Curtis, *Balkrishna Doshi. An Architecture for India*, New York 1988











Gandhi Labour Institute
Balkrishna Vithaldas Doshi
1980-1984

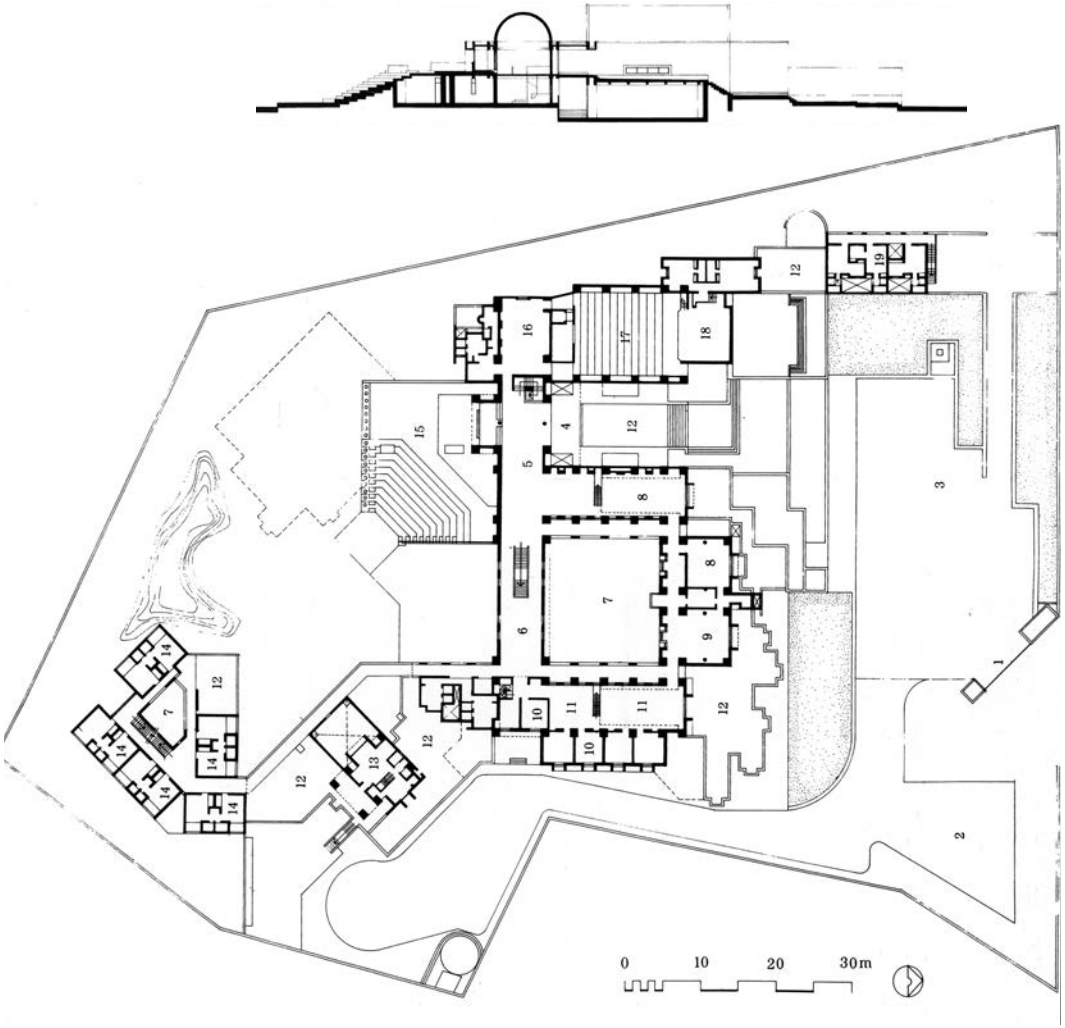
The Institute stands on a flat site in the western suburbs of Ahmedabad and houses a library, an exhibition space, an auditorium, teaching areas, offices and an attached dormitory block. The building is cranked in plan to fit the uneven perimeter and to define a precinct to the rear where an open-air theatre abuts the building and steps down to a garden. There is also a variety of open air spaces, terraces, a courtyard and covered walkways. Again Doshi refuses to think of functions as being discrete: the institute's activities flow freely into one another in a way that is deliberately ambiguous.

The composition is distinguished by its studied contrast of regularity and irregularity. Axes are implied, denied, then rediscovered. The approach is along a diagonal which traverses the forecourt prior to mounting a shallow flight of steps flanked by a pool. The institution is „de-monumentalised" to make it feel accessible to the public. One enters at the first floor under a transversal vault which then feeds laterally into the various departments by means of a lofty interior gallery. The interior route involves twists, turns and unexpected vistas, and is perhaps a metaphor of the Mahatma's quest.

The plan is a collage of different enclosed or semi-enclosed spatial types (courts, steps, terraces, corridors, enclaves, etc.) and reiterates Doshi's interest in treating large institutional buildings as analogies of traditional townscape. Contrived irregularities are controlled by a simple geometrical and proportional system based upon the square. The building reuses many elements from Sangath, most notably the concrete vaults covered in fragments of China, the faceted terraces, earth mounds and an amphitheatre.

But the vaults of the Gandhi Labour Institute have more vertical proportions and are detailed in an almost mannerist way, to echo the outlines of Buddhist chaitya arches, Bengali curved roofs, or even statues with long ear-lobes. The building almost has the air of a „manifesto of Doshi's modern Indian architecture."

William J. R. Curtis, *Balkrishna Doshi. An Architecture for India*, New York 1988



Plan at entrance level

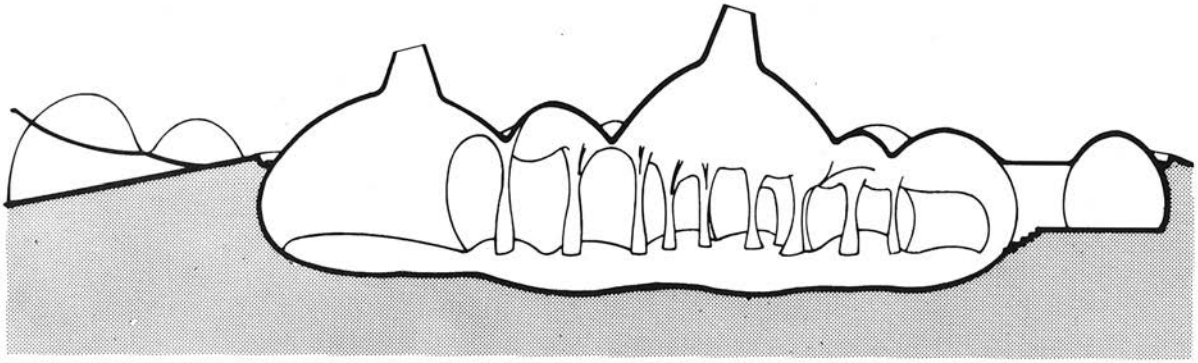
1. Entrance
2. Parking
3. Forecourt
4. Entry
5. Lounge/Reception
6. Exhibition
7. Courtyard
8. Director's office
9. Board room
10. Assistant Directors
11. General staff
12. Terrace
13. Rector's residence
14. Hostel room
15. Amphitheatre
16. Foyer
17. Auditorium
18. Stage
19. Servant quarters

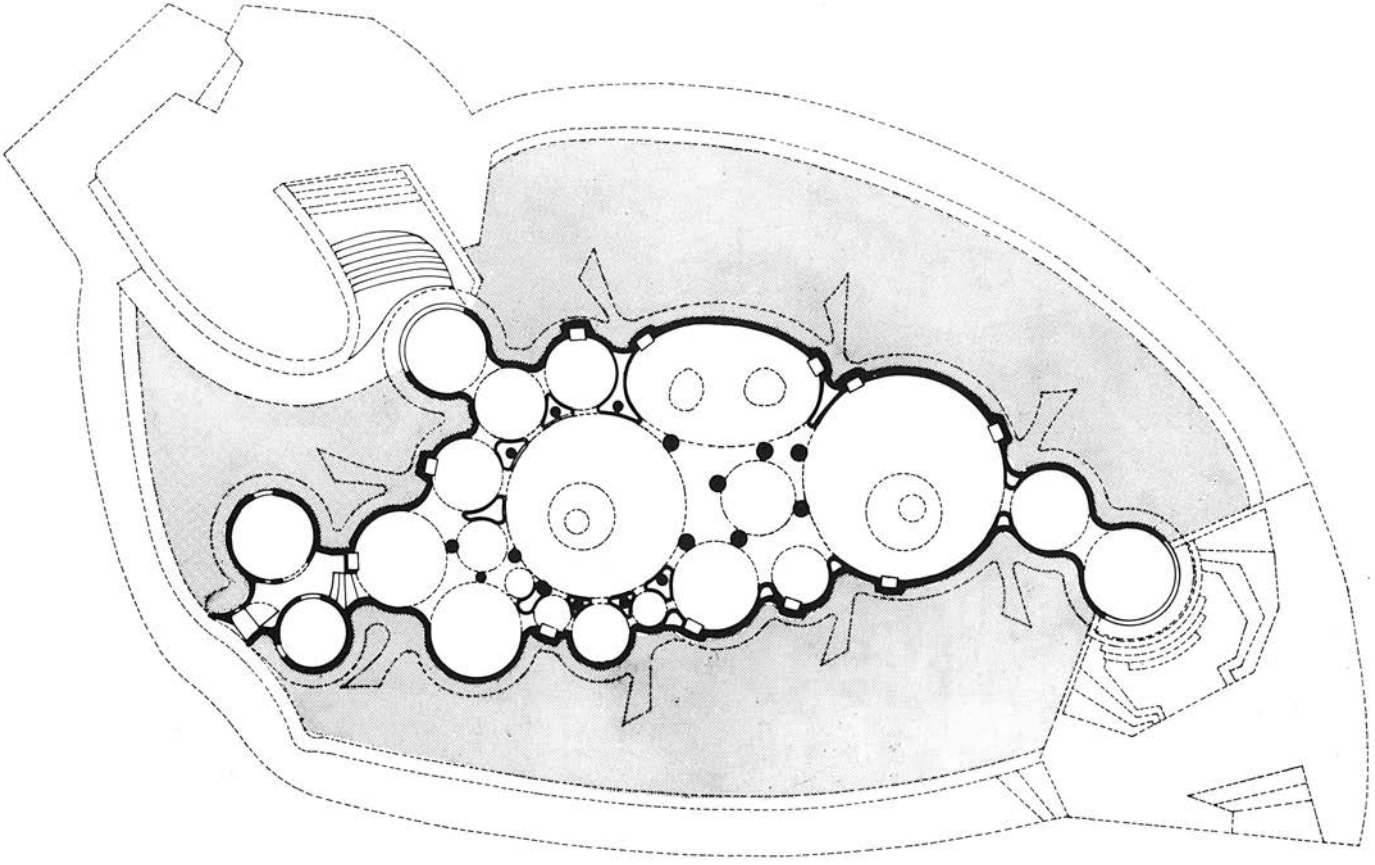
Husain-Doshi Gufa
Balkrishna Vithaldas Doshi
1992-1995

The Gufa, which is a collaborative effort between Doshi and the Indian artist M. F. Husain, began as an art gallery for the exhibition of the artist‘s work. It undeniably represents an anomaly in Doshi‘s oeuvre, a natural and free expressionistic essay that differs completely from the rigorous order evident in Doshi‘s previous work. This dramatic departure cannot be entirely explained by the artist‘s influence, but rather marks a sea-change in Doshi‘s work in general, also marked by the ‚stories‘ or narratives that now accompany each new project. The traditional heritage of these narratives echoes the deeper historical resonance of the projects themselves.
The references for the Gufa are elemental and primeval: the cave, the circle, the mountain, the breast, and historical precedents in India itself which emerge from these universal prototypes, the Buddhist stupa (memorial) and its appearance in the cave monasteries of Kadi and Ajanta in particular. The stupa, as the primary reference, has a dual significance as both the tomb of Buddha and the symbol of the pursuit of knowledge, one of his ‚four noble truths‘.

In recognition of humanity‘s responsibilities and ability to teach itself, the stupa formally signifies and implies the enlightening nature of knowledge, the reference to a source of light also relating to Louis Kahn‘s mystical belief in the life-giving qualities of this element and its importance as more than a space-defining substance in architecture. Originally, stupas varied in shape from the prevalent hemisphere to pyramids and cones and were often ‚covered from top to bottom with small triangular recesses for oil lamps, so that the whole monument could be illuminated and appeared as one huge, radiating dome of light‘. The use of light to enhance its dome-like shape also emphasized the sky vault, as well as the life cycle of ‘destruction and creation, death and birth‘ . In this way, it captured the essence of the Buddhist philosophy of regeneration.
[...]

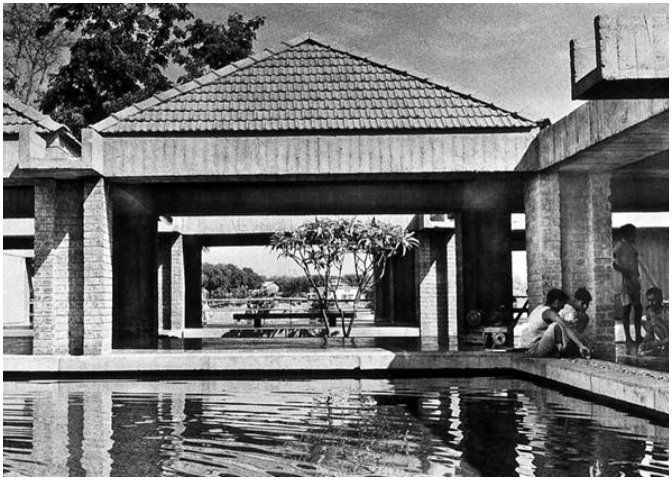
James Steele, *The complete architecture of Balkrishna Doshi. Rethinking Modernism for the developing world,* London 1998



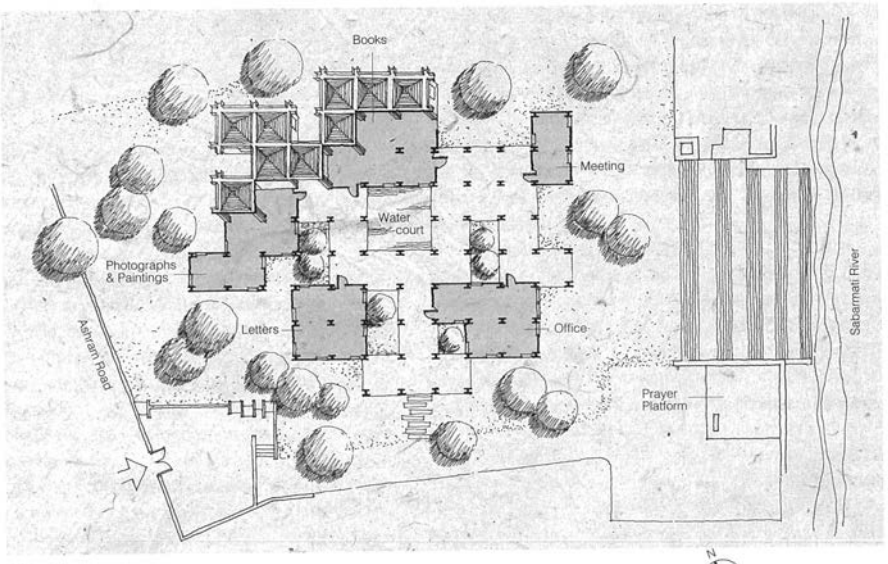


Gandhi Smarak Sangrahalaya
Charles Correa
1958-1963

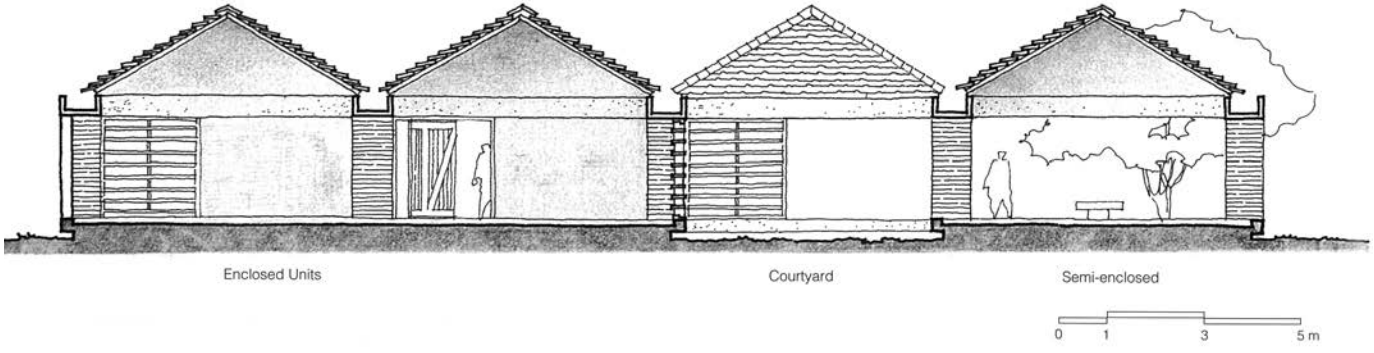
Die Gedenkstätte von Mahatma Gandhi wurde beim Ashram errichtet, in dem Ghandi wahrend längerer Zeit gelebt hatte. Im Museum werden unzählige Briefe, Dokumente und Fotografien aufbewahrt und zudem Raum für Studien und Begegnungen geboten.
Der Grundriss der Anlage ist auf einem strengen Raster von 6x6 m aufgebaut. Ein Feld wird von vier Backsteinpfeilern begrenzt und ist mit einem Ziegeldach in Pyramidenform überdeckt, oder es ist gegen den Himmel offen. Die Module sind an den Seiten je nach Funktion von Backsteinmauerwerk gefasst oder offen.
Die modulare Grundstruktur und die Ausbildung der Elementabschlüsse schaffen die Möglichkeit für Erweiterungen der Anlage.
Der Besucher betritt die leicht angehobene Plattform des Museums und gelangt in einen überdachten Aussenraum. Zwischen zwei offenen Hofräumen fällt der Blick auf ein zentrales Wasserbecken, in dem sich der Himmel spiegelt. Die Anlage kann auf verschiedenen Wegen durchschritten werden. Geschlossene und offene Räume sind so angeordnet, dass das Begehen der Anlage in allen möglichen Varianten immer wieder ein neues Erlebnis ist, bei dem Ausblicke gegen oben, in die Umgebung und in die ruhigen, geschützten Raumzonen sich abwechseln. Starke Kontraste von Licht und Schatten prägen die Stimmung im Innern.
Correa orientiert sich bei diesem wichtigen Frühwerk an der Struktur des Dorfes, das in Ghandis Denken eine wichtige Stelle einnahm. Die Anlage erinnert mit den Platzräumen und den spitzen, überdeckten Bereichen sehr an alte Moghularchitektur, wie man sie zum Beispiel in Fatehpur Sikri findet. Im Zusammenhang mit Aussenräumen und Museen äussert sich Correa wie folgt: „ .... the great islamic mosques of Delhi and Lahore are the other end of the spectrum: they consist mainly of large areas of open space surrounded by just enough built form to make one feel ‚inside' a piece of architecture ... this ying-yang relationship, open-to-sky-space sourrounded by solid built forms and vice versa, generates figure/ ground patterns in which the open spaces can act as areas of visual rest between enclousered volumes - a principal of enormous potential for museums."

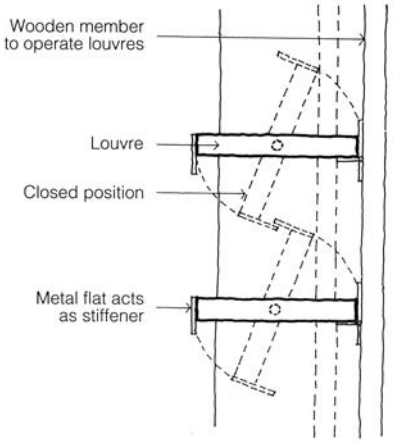


Barbara Schlauri, *Stipendium Erich Degen Stiftung der ETH Zürich. Unter freiem Himmel. Charles Correa*, Zürich 2003

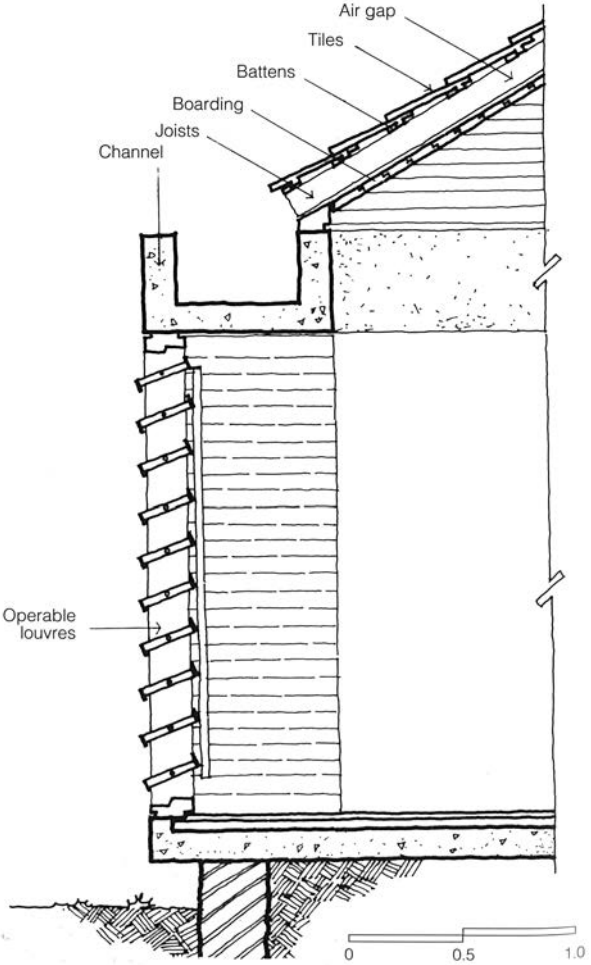

Books
Meeting
Water court
Photographs & Paintings
Letters
Office
Ashram Road
Prayer Platform
Sabarmati River
N
0 5 10 20 m

Site plan


Enclosed Units
Courtyard
Semi-enclosed
0 1 3 5 m



Detail of louvre



Section showing operable louvres

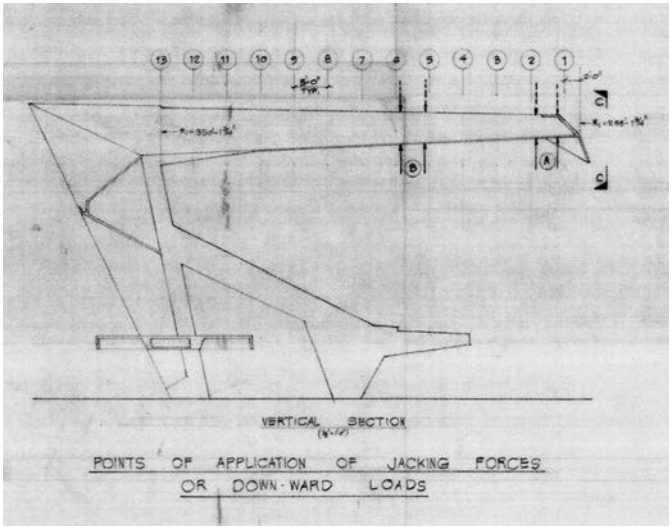
Sardar Patel Stadium
Charles Correa und Mahendra Raj
1959-1966

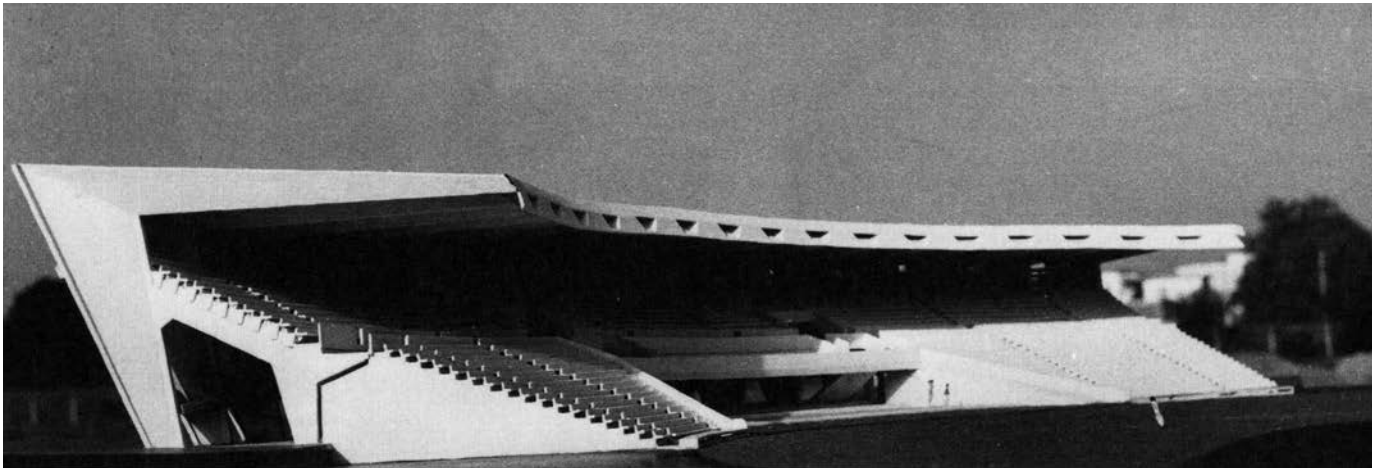
This cricket stadium is one of the first of its kind using folded-plate cantilever frame structures in India. Particularly noteworthy is the delicacy and elegance of the structure, as the thin folded plates rise from the ground to form an integral whole with the spectator-stands and the 20m-long cantilever roof.

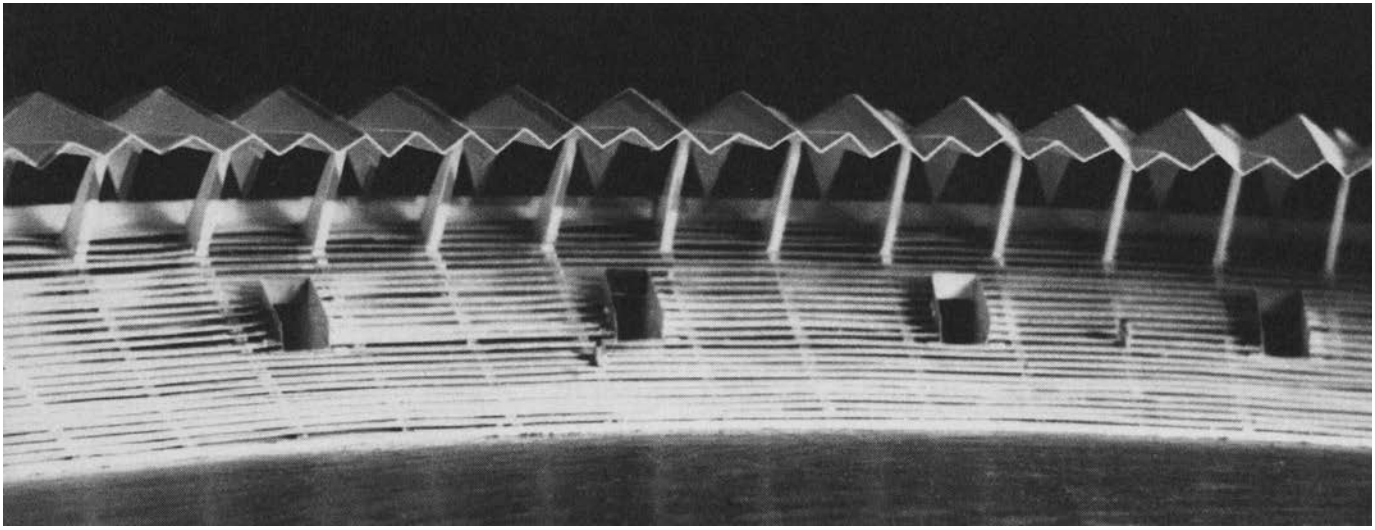
‚To my knowledge, this structure was the first of its kind at that time-folded plate as a cantilever`, Mahendra Raj says. ‚We were all very nervous. In those days there was no proof checking, so we double checked within our office'. He adds, ‚Dr Vakil and I started working on the stadium with Charles, who invited his friend from MIT, Fred Taylor, to help him design it. We worked on a number of alternate designs, made models and had long discussions on the architectural structural and constructability merits and demerits of each design. All the options we worked out were folded-plate structures. I had already worked on the design of plates and shells during my higher studies and at work, especially the Mohawk Airlines hangar, my first project in the office of Ammann & Whitney Consulting Engineers, New York, which was also a cantilever hangar, although different, as it was a balanced one.'

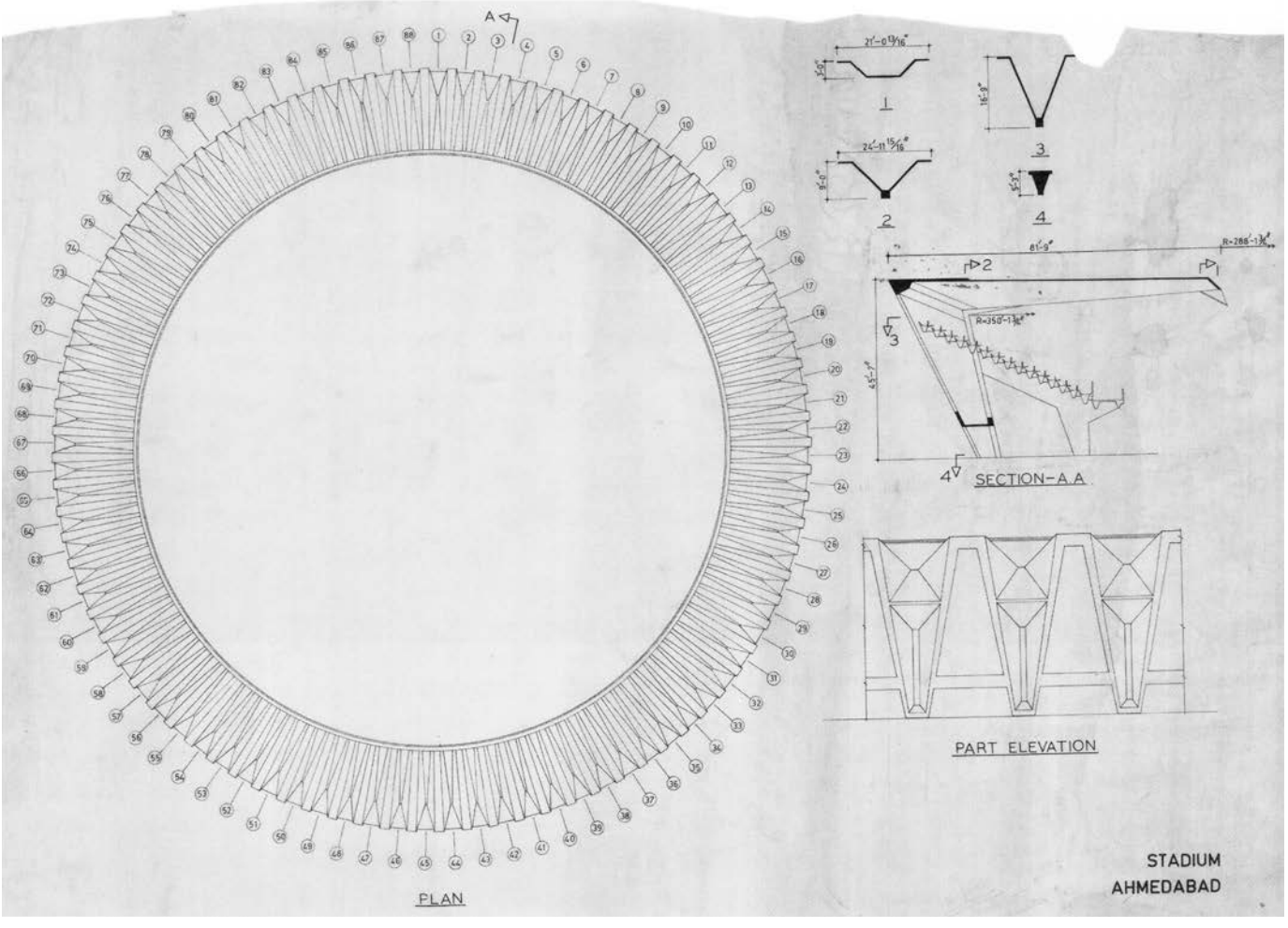
The structure is composed of folded-plate cantilever frames in reinforced concrete, which provide partial cover for the 35000-person stadium. The 20 metres cantilevered roof has a tapering fold with 8-15cm thick plates anchored to the folded inclined leg of the main frame that inturn is connected to the seating frame. Both legs of the main frame and seating frame rest on a combined strip footing. The incline allows the centre-of-gravity of the superloads on the cantilevered folded-plates to pass through the combined strip-footing. This way the large cantilever moment on the frame is dissipated by the time it reaches the foundations making each part of the structure work with the other in a fine balance. At the discontinuous ends of the roof folds, cross ties are provided to control stresses in the end plates. This structure is built in mild steel, before TOR steel was introduced in India.

Vandini Mehta, Rohit Raj Mehndiratta, Ariel Huber, *The Structure Works of Mahendra Raj*, Zürich 2016


13 12 11 10 9 8 7 6 5 4 3 2 1
B
A
C
VERTICAL SECTION
POINTS OF APPLICATION OF JACKING FORCES
OR DOWN-WARD LOADS






A
PLAN
SECTION-A.A
PART ELEVATION
STADIUM
AHMEDABAD

Harivallabhdas House
Achyut P. Kanvinde
1962-1964

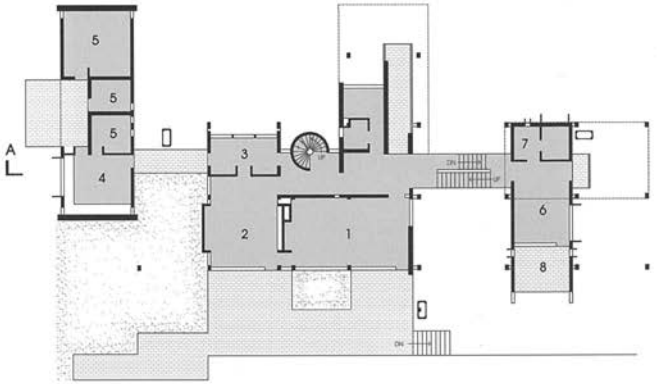
Designed for a mill-owning family, the residence is planned as a four-bedroom unit set within a large garden. The flat, urban site is transformed by the creation of a sunken garden, with a pool and strategically located mounds. This innovative approach affords the benefit of the garden to a majority of spaces within the house. The winding access road, leading up to the entrance, respects the reshaped topography and imparts a sense of surprise.

Spatially, the house comprises two distinct volumes, linked by a glazed staircase rising above the pool, with the single-storey kitchen block forming a separate entity. The composition is unified by a floating parasol roof extending beyond the floor plate of the residence below. This concept of a second roof finds parallels in the designs of other, international architects belonging to the same time period.

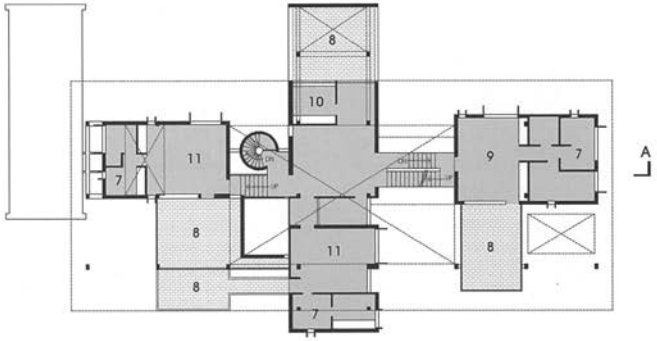
The setting of the garden, the water feature, and the parasol roof are elements that help maintain a unique microclimate. Verandahs, terraces, concrete sunshades, and the railing further accentuate the visual quality of the house.

The building manifests an exposed concrete frame structure with plastered as well as exposed brick infill walls. The flooring is in natural stone and in situ terrazzo.

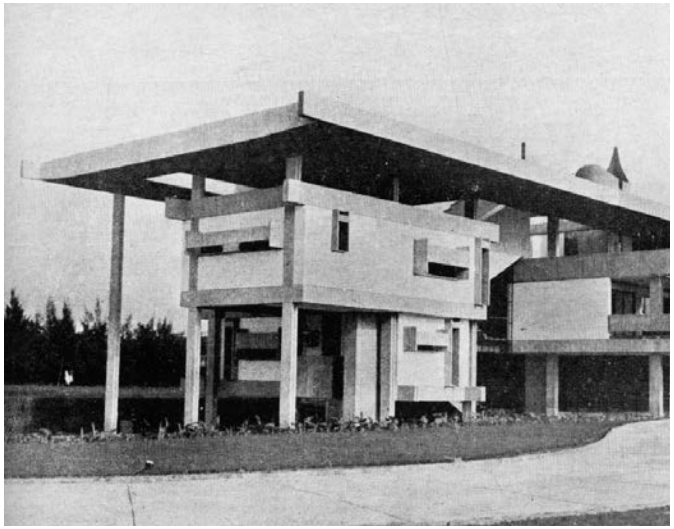
Tanuja Kanvinde, Sanjay Kanvinde, *Achyut Kanvinde*, New Delhi 2017



GROUND FLOOR PLAN



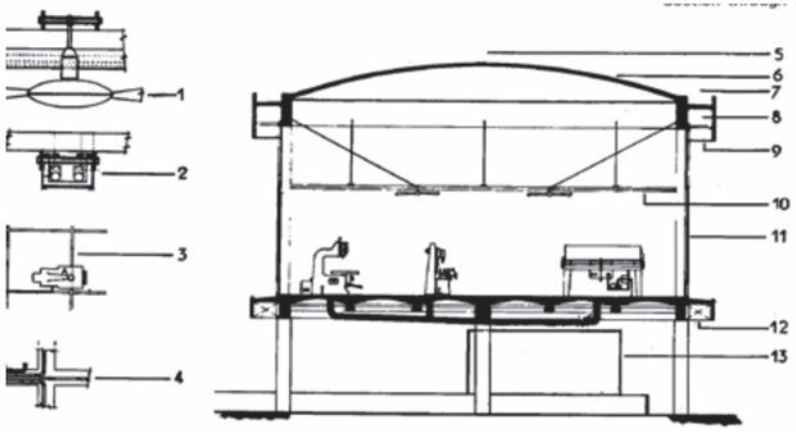
FIRST FLOOR PLAN



National Institude of Design
Gautam und Gira Sarabhai
1968

Close to the Sanskar Kendra and Tagore Memorial Hall in Paldi, one can find the National Institute of Design (NID, 1961) designed by Gautam and Gira Sarabhai. The initial idea for the Institute came from a 1958 report by Charles and Ray Eames that discussed the educational curriculum for an Institute of Design - thereby influencing the actual physical design of the Institute itself. The Sarabhais had worked with Frank Lloyd Wright at Taliesin and some have seen his influence in the design of NID.
However, it can be argued that the concrete frame structure with brick infill and the use of courts to create a distinct solid-void relationship was already present in the architectural vocabulary developing in Ahmedabad at the time, and in particular at Sanskar Kendra and contemporaneously at CEPT. In any case, the pre-cast floor at NID and its brick-shell roofs are definite innovations. The NID campus is worth a visit not just because of its architecture, but also to see the students‘ work in their studios and in their internal exhibitions. NID also periodically hosts other exhibitions of art, photography and design. Roughly when the NID was being set up, a memorial museum designed by the Indian architect Charles Correa was being constructed across the city on the banks of the Sabarmati.

Anupam Bansal, Malini Kochupillai, *Architectural Guide. Delhi*, Berlin 2013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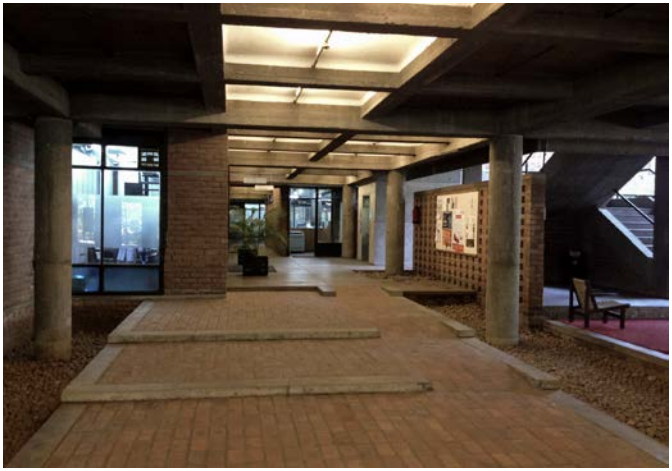
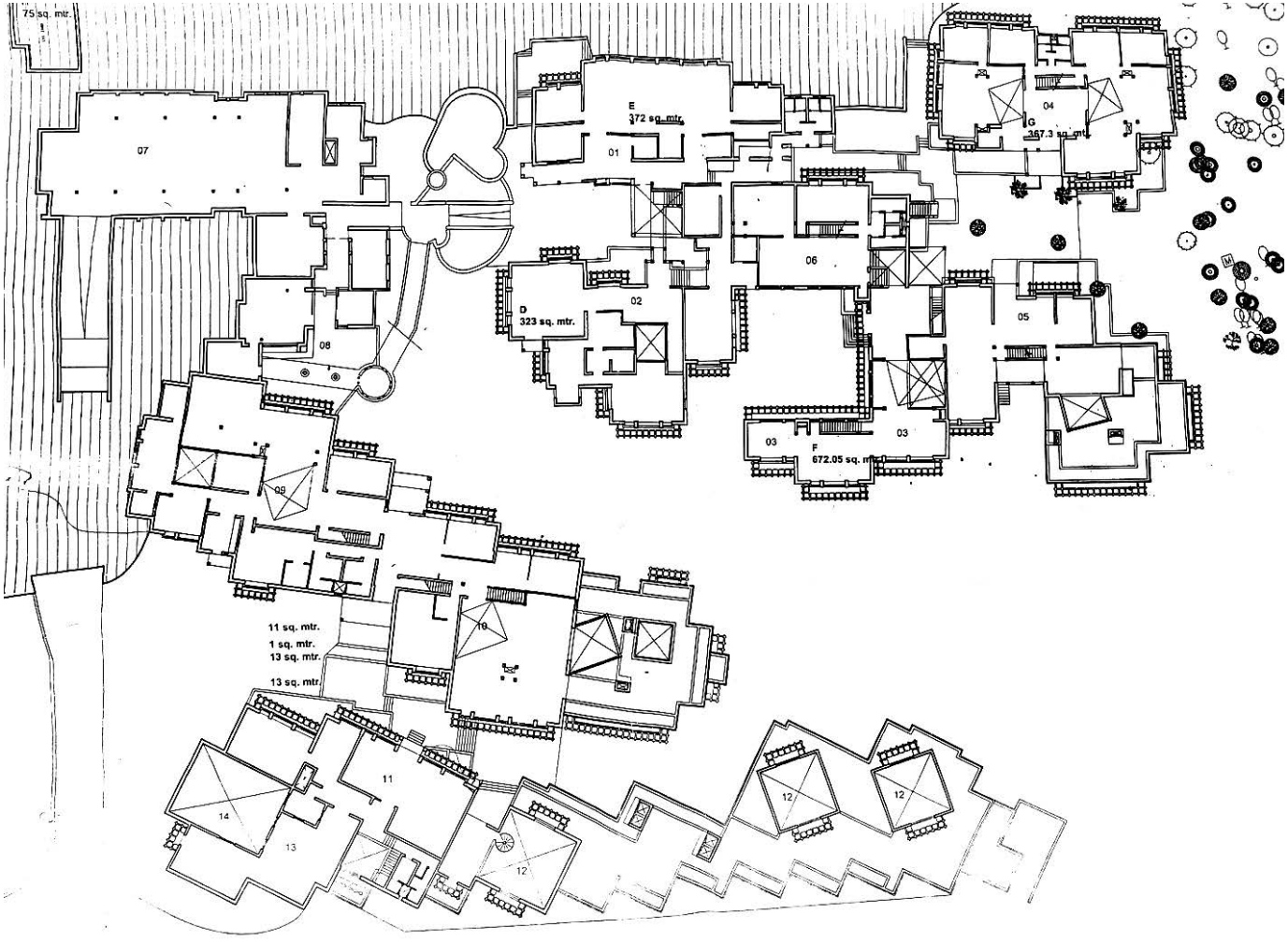


Centre for Environment Education
Neelkanth Chhaya und Kallol Joshi
1988-1990

The building complex of the Centre for Environmental Education (1988-1990) was designed by Neelkanth Chhaya and Kallol Joshi off SG Road, opposite the Gurudwara. The centre is open to the public and visitors are welcome to see how the building has been designed as a response to its local topography, and how the landscape and planting is used to enhance the flagship branch of an institution that focuses on the environment.
Additionally, the design has focused on making the complex feel less institutional and more intimate - the scale of the buildings and sequence of spaces and views modulated accordingly.

Anupam Bansal, Malini Kochupillai, *Architectural Guide. Delhi*, Berlin 2013


75 sq. mtr.
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BIOGRAFIEN

BIJOY JAIN - STUDIO MUMBAI

*1965 in Mumbai, Indien

Bijoy Jain was born in Mumbai, India in 1965 and received his M. Arch from Washington University in St Louis, USA in 1990. He worked in Los Angeles and London between 1989 and 1995 and returned to India in 1995 to found his practice. Studio Mumbai is a human infrastructure of skilled craftsmen and architects who design and build the work directly. The studio has built installations in the Victoria & Albert Museum (2010) and at the XII Venezia Biennale 2010, where the installation „Workplace“ was awarded a Special Mention. Their work has been presented in venues such as the Alvar Aalto Symposium and the Architectural League of New York and was a finalist in the Agha Kahn Awards 2010 Cycle. Studio Mumbai received the Global Award for Sustainable Architecture from L'Institut Francais D'Architecture (2009) and the Design for Asia Award from the Hong Kong Design Center (2009).

Saat Rasta

RAHUL MEHROTRA

*1959, Indien

Rahul Mehrotra is an architect, urbanist and educator who is the Founder Principal of RMA Architects and is Professor of Urban Design and Planning and Chair of the Department of Urban Planning and Design at Harvard University's Graduate School of Design.
He studied at the School of Architecture, Ahmedabad graduated with a Master's Degree in Urban Design with distinction from the Graduate School of Design at Harvard (1987). Apart from his engagement with the design of buildings, Mehrotra has been actively involved in civic and urban affairs in Mumbai, having served on commissions for historic preservation and environmental issues, with various neighborhood groups. He was the Executive Director (1994–2004) of the Urban Design Research Institute (UDRI), where he is now a Trustee and has taught at the University of Michigan (2003–2007) and at the School of Architecture and Urban Planning at MIT (2007–2010).
Mehrotra has written and lectured extensively on issues to do with architecture, conservation and urban planning in Mumbai and India.

CEPT Library

CHARLES CORREA

***1930 in Secunderabad, Indien**

Charles Correa has responded to the challenge of addressing the vastly divergent architectural tasks that confront modern India. His wide architectural production ranges from major public institutions to the planning of cities, from laying out low-income settlements to the design of luxurious hotels. From his earliest projects, Correa has taken an exploratory approach, making continually fresh combinations out of the new and the old, the monumental and the folk, the inventive and the referential. His bold and dramatic compositions in form, color and space, combined with the incorporation of traditional iconography, have enabled him to make extremely rich interpretations of traditional Indian paradigms.

Correa began his private practice in 1958 in Bombay, after receiving his architectural education at the University of Michigan and the Massachusetts Institute of Technology. In 1964-5 he prepared an alternate Master Plan (with Pravina Mehta and Shiresh Patel) proposing New Bombay, as a twin city to Bombay. From 1971-74 he served as Chief Architect to CIDCO, the agency responsible for the planning of New Bombay; in 1985 he became Chairman of the National Commission on Urbanization for the Government of India. His numerous honors include the RIBA Gold Medal (1984), the Gold Medal of the UIA (1990), and the Praemium Imperiale of the Japan Art Association (1994)· In his role as urban designer and theorist, Correa has confronted the condition of constantly escalating urbanization as the most urgent problem affecting not only India but much of Asia. His pioneering work on the planning of New Bombay entailed making a bold response to the need for economical forms of mass transportation and to the provision of new work centers and viable forms of inexpensive low-rise housing. Throughout his prolific writing Correa has eloquently addressed the issues of ecology, urbanization and housing form. His polemical and compelling book The New Landscape (1985) articulates his concerns and proposals for the urbanization of the Third World.

Correa's early work reflected the influence of Le Corbusier, particularly through his use of bold inventive forms that responded to the particular climate and needs of India. The Kanchanjunga Tower, a tall building for a hot-humid region, is a demonstration of Correa's early dictum „form follows climate". His later characterization of the climatic milieu of India, particularly his celebration of "open-to-sky" space, led him away from his earlier, more technical preoccupations towards his current concern for integrating appropriate tectonic form with ritual pathways and mytho-symbolic iconography, particularly in the Jawahar Kala Kendra (1992). Through such an iconographic approach, Correa has attempted to resuscitate the sacred in architecture as a way of reconciling the language of modernism with the pervading and persisting sense of the spiritual in Indian culture.

Kanchanjunga Apartments

BALKRISHNA VITHALDAS DOSHI

*1927 in Pune, Indien

Balkrishna Doshi describes his approach to architecture as yogic, that is, seeking the harmony of man's inner and outer needs, and binding the individual to the community. For Doshi, India's greatness lies in its rituals, which continue to bring dignity and meaning to everyday life through an intuitive response to environment. The contemporary emphasis on the secular has lost touch with an awareness of the sacred. Through his understanding of the principles that have shaped society, Doshi finds inspiration for new forms that acknowledge tradition but reconsider it in order to keep it vital for the present age.

Doshi was formed as an architect in Le Corbusier's atelier in Paris, where he worked on the new city of Chandigarh and the Millowners' Association Building in Ahmedabad. He returned to India in 1955 to oversee construction on these works and in the following year set up his own practice in Ahmedabad. His first commission, a low-cost housing settlement for ATIRA (Ahmedabad Textile Industry's Research Association), was followed by the Institute of Indology. Both were strongly influenced by the architecture of Le Corbusier. In 1962, he was instrumental in bringing Louis Kahn to Ahmedabad in order to design the Indian Institute of Management. Kahn's work and presence had a great impact on Doshi's architecture, both in a theoretical and practical sense.

In 1962 Doshi acted as a founding member and the first director of the School of Architecture and Planning in Ahmedabad (1962), the first part of the Centre for Environmental Planning and Technology (CEPT). His design for the School of Architecture is an interpretation of Le Corbusier and Kahn in a way that is specific to India. He has maintained a long relationship with CEPT and is greatly respected as a teacher.

The Indian Government's policy in the early 1960s of regional industrialization afforded Doshi his first opportunity to design new settlements at a large scale, which was the impetus for his study of the spatial patterns of traditional Indian villages and towns. This period also marked the completion of several monumental civic buildings, including the Central Bank of India and Premabhai Hall, both in Ahmedabad. In the early 1970s Doshi immersed himself in a study of traditional Indian philosophy and ancient texts on architecture. The Indian Institute of Management at Bangalore (1977-85) reinterprets principles that have organized some of the great buildings of the past. Sangath (1979-81), his own studio west of Ahmedabad, exemplifies his deep concern for maintaining his Indian roots while remaining committed to a modern vocabulary. Sangath also provides space for the Vastu-Shilpa Foundation, which Doshi set up in 1978 to promote a rigorous inquiry into India's past and present complexities. Through research, publications and seminars, this organization continues to provide a multi-disciplinary understanding of the way in which architecture in a broad sense is relevant to the community.

The early 1980s brought Doshi to design a new township at Aranya, near Indore, which allows a built-in flexibility for individual expression within a community organization, and at Vidyadhar Nagar, on the outskirts of Jaipur, which evokes cosmic order in its reference to the mandala, the same device that inspired the historic city's 18th century plan. While Doshi remains committed to Indian tradition as the generator of form, his recent projects for the National Institute of Fashion Technology (1991-95) in New Delhi and the Bharat Diamond Bourse (1992-ongoing) in Bombay welcome the use of highly technical materials at a time when many in India are anxious to participate more actively on the world market.

Sangath

MAHENDRA RAJ

***1924, Indien**

Mahendra Raj, (born 1924), graduated as a civil engineer from the Punjab College of Engineering and Technology, Lahore, in 1946 after which he joined the Punjab Public Works Department`s Building and Roads wing. In 1952 he was introduced to structural design as an Assistant and later, as an Executive Engineer working on the buildings of Le Corbusier in Chandigarh, which inspired him to pursue further studies from the University of Minnesota, USA, in structures in 1956. He then moved to New York and worked at Ammann & Whitney Consulting Engineers until 1959 where he was associated with several innovative structures such as the Illinois Field House, Mohawk Airlines hangar, the Swissair hangar in New York and the US Embassy in Dublin. He also won the Boese Fellowship at Columbia University, New York, where he earned a Civil Engineering degree in 1959.

Raj returned to India and set up a consultancy in Bombay in 1960. A decade later he shifted his practice to Delhi. He has to his design credit a number of large-span structures which when built, were the largest of their kind in the country and sometimes one of their kind globally. He also designed the first high-rise in India, the Usha Kiran in Bombay. Much of his work was with leading international and Indian architects such as Le Corbusier, Minoru Yamasaki, Louis Kahn, AP Kanvinde, Charles Correa, BV Doshi, JA Stein, Shiv Nath Prasad, Kuldip Singh and Raj Rewal.

During the course of his professional career he has won many awards and honours. The Institution of Engineers (India) presented him with the Architectural Engineering Design Award in 1990; the Association of Consulting Civil Engineers presented him with the Acce Gourav Award in 1991; and he was the first engineer to be awarded The Chairman`s Award 1995 instituted by JK Cement Works for the Architect of the Year. Over the last two decades he has received Lifetime Achievement Awards and Scrolls of Honour by the Indian Concrete Institute (2001), the Institution of Engineers (India) (2001), the Consulting Engineers Association of India (2009) and the Institute for Steel Development & Growth (2014). The Structural Engineers World Congress-India honoured him with the Sundaram Medal in 2013.

In service to his profession, Raj has led the Indian Concrete Institute, the Association of Consulting Engineers India (ACEI) and the Indian Association of Structural Engineers as their President. As Vice Chairman he has served the Consultancy Development Centre and is currently serving the Engineering Council of India in addition to membership and advisory roles at several important government and non-government committees. Through these positions he has worked for the cause of consultancy and the framing of a proposed Engineers`s Bill in India.

Tagore Hall

LOUIS ISADORE KAHN

*1901 auf Osel, Estland

Louis Isadore Kahn wurde am 20. Februar 1901 auf der Insel Osel in Estland geboren. Seine Familie wanderte 1905 nach den Vereinigten Staaten aus. Am 17. März 1974 starb er an einem Herzschlag in der Pennsylvania Station in New York, auf dem Rückweg von einer Reise nach Indien. Sein Leben war an Ereignissen reich. Im folgenden sind die wichtigsten Stationen seiner Karriere als Architekt und als Lehrer aufgeführt.

Ausbildung und berufliche Karriere:

1912-20 Besuch der Central High School und der Pennsylvania Academy of Fine Arts. Erhielt zahlreiche Auszeichungen für Zeichnungen und Gemälde.
1920-24 Universität von Pennsylvanien, Bachelor of Architecture.
1925-26 Im Büro von John Molitor, wo Kahn Entwurfs-Chef für die Hundertfünfzigjahrfeier der amerikanischen Unabhängigkeit wurde.
1928-29 Reisen in Europa.
1930 Begann im Büro von Paul P. Cret zu arbeiten.
1932-33 Organisator und Leiter der Architectural Research Group: Dreissig arbeitslose Architekten und Ingenieure untersuchten Philadelphias Wohnverhältnisse, planten Wohnungsbau, erarbeiteten Studien über Städteplanung und Slum-Sanierung, erforschten neue Konstruktionsmethoden usw.
1935 Einschreibung im American Institute of Architects. Wird als Architekt selbständig.
1937 Beratender Architekt bei der Wohnungsbaubehörde Philadelphias.
1939 Beratender Architekt bei der Wohnungsbaubehörde der USA.
1941-42 Architekturbüro mit George Howe als Partner.
1942-43 Architekturbüro mit George Howe und Oscar Stonorov als Partner.
1946-52 Beratender Architekt der Stadtplanungskommission Philadelphias.
1950-51 Schularchitekt der American Academy in Rom.
1959 Schlussreferat am Zehnten CIAM-Kongress in Otterlo, Niederlande.
1960 Teilnahme an der Welt-Entwurfskonferenz in Tokio.
1961 Beratender Architekt der Stadtplanungskommission Philadelphias.
1962 Jahresvortrag am Royal Institute of British Architects in London.
1968 Mitglied der Kunstkommission von Philadelphia.

Akademische Karriere:

1947-57 Professor für Architektur an der Yale-Universität. Hauptprofessor für Entwurfskritik.
1956 Professor der A. F. Bennis-Stiftung an der Schule für Architektur und Planung, M.I.T.
1957 Professor für Architektur an der Universitat von Pennsylvanien.
1960 Vorlesungen an den Universitäten Yale, Harvard, von Kalifornien, Houston, North Carolina und an der Tulane-Universität. Fakultätsmitglied an der Princeton-Universität.
1962 Vorlesungen in Philadelphia, Ontario und Chicago.
1966 Inhaber des Paul-Philippe-Cret-Lehrstuhls für Architektur an der Universität von Pennsylvanien.
1971 Professor Emeritus des Paul-Philippe-Cret-Lehrstuhls der Universität von Pennsylvanien

Indian Institute of Management

CHARLES JEANNERET (LE CORBUSIER)

*1887 auf La Chaux-de-Fonds, Schweiz

1887 Le Corbusier (eigtl. Charles Jeanneret) wird als Sohn eines Designers und einer Musiklehrerin in La Chaux-de-Fonds (Schweiz) geboren.

1900 Ausbildung als Graveur, Maler und Goldschmied an der École d'Art in La Chaux-de-Fonds. Ab 1904 Ausbildung zum Architekten an der selben Kunsthochschule.

1907-11 Le Corbusier unternimmt eine ausgedehnte Studienreise durch Europa. Er arbeitet in zahlreichen Städten, darunter Berlin, Dresden und Wien, in führenden Architekturbüros.

1914 Er entwickelt ein Eisenbeton-Skelett-System „Domino" für mehrgeschossige Bauten. Berufung auf einen Lehrstuhl der Kunsthochschule in La Chaux-de-Fonds.

1917 Übersiedlung nach Paris.

1919 Gründung und Herausgabe der Zeitschrift „L'Esprit Nouveau". Er veröffentlicht sein „Manifest des Purismus". Demnach ist das künstlerische Werk durch den Umgang mit elementaren, geometrischen Formen bestimmt.

1922 Er publiziert seine städtebauliche Konzeption in Form eines Projekts einer Stadt für drei Millionen Einwohner, das Prinzip der „Strahlenden Stadt". Basis dieses Konzepts bilden die Trennung von Auto- und Fußgängerverkehr sowie die Bebauung in Form von Großwohneinheiten, in die Versorgungs- und Dienstleistungseinrichtungen integriert werden. Geometrische Grundformen bilden ein wesentliches Element dieser Entwicklung. Das Projekt wird weltweit kontrovers diskutiert. Le Corbusier entwickelt die darin enthaltenen Grundgedanken später in zahlreichen städtebaulichen Projekten für Algier, Antwerpen, Bogotá u.a. weiter.

1925 Auf der Pariser „L'Exposition des Arts Décoratifs" ist ein Pavillon Le Corbusier und seinen Freunden gewidmet. Er wird „L'Esprit Nouveau" betitelt.

1927 Le Corbusier beteiligt sich mit mehreren Entwürfen am Bau der Stuttgarter Weißenhofsiedlung.

1928 Le Corbusier ist Mitbegründer der „Congrès Internationaux d´Architecture Moderne" (CIAM), die ihre Tagungen bis in die 50er Jahre hinein abhalten.

ab 1929 Er ist als Städteplaner in der ganzen Welt tätig und errichtet bedeutende Großbauten wie das Nachtasyl der Heilsarmee in Paris (1929-1933) und das Schweizerische Haus der Cité universitaire in Paris (1930-1932).

1933 CIAM gibt in der „Charta von Athen" Leitsätze für den Städtebau heraus.

1936-43 Entwurf für das Bildungsministerium in Rio de Janeiro.

1943 Während des Zweiten Weltkriegs kehrt Le Corbusier, Anhänger der französischen Vichy-Regierung, ins besetzte Paris zurück.

ab 1946 Nach dem Krieg weisen seine Bauten zunehmend skulpturale Formen auf.

1950-54 Errichtung der Wallfahrtskirche Notre-Dame-du-Haut in Ronchamp.

1961-64 Bau des Carpenter Center for Visual Arts der Harvard University.

1965 Le Corbusier stirbt nahe Cap Martin bei Nizza.

Villa Sarabhai

Ohne die Zustimmung des Knechts, so die hegelsche Pointe, kann auch der Herr nicht herrschen und ohne seine Dienste schon gar nicht. Eins der Dilemmata Mumbais. Die Beteiligten: eine wachsende Masse an Armen und die, für die sie arbeitet. Zwei Ordnungen, zwei Währungen: Ein Müllsortierer erhält dafür, dass er zwölf Stunden mit den Händen durch Abfall wühlt, so viel, wie ein kosmopolitischer Latte macchiato in Mumbais Cafes kostet:75 Rupien, das sind 1 Dollar 70.

Und dann kommt noch ein Dritter ins Spiel: der Platz, der immer fehlt. Ein stummer Mitspieler, um den man sich reisst und der eigentlich schon nicht mehr auftritt – verstopft von Taxis, Rikschas, Menschenmassen, Lärm und Müll, und der die Mietpreise in manchen Stadtteilen dennoch zu den höchsten der Welt macht.

Grossstadtdschungel

Erstaunlicherweise führt der Platzmangel nicht etwa dazu, dass man dem öffentlichen, also gemeinsam geteilten Raum besondere Wertschätzung angedeihen lässt. Das Draussen scheint eine entfesselte, alle Privilegien (von Geld, Kaste oder Hautfarbe) nivellierende Zone, in der man ständig angehupt, vom Weg abgedrängt und angesprochen wird («Yes, Madam?»), eine Zone, durch die man schnell hindurch muss. Es ist kein Ort zum Verweilen; er wird bespuckt, vermüllt, bepinkelt, und an den Bahngleisen kann man morgens den Männern sogar beim Defäkieren zusehen.

«Nicht nur wegen der fehlenden Toiletten», gab mir ein indischer Freund und Geschichtswissenschafter zu bedenken. «Es gehört auch ein anderer Begriff des öffentlichen Raums dazu, sonst könn- test du das nicht. Im Grunde haben wir keinen, jedenfalls nicht im europäisch-bürgerlichen Sinne.» Die Essays, mit denen der Freund mich ver- sorgte, klärten mich über das Draussen auf als eine Zone, die in der hinduistischen Gesellschaft immer schon mit Misstrauen bedacht wurde, eine Zone der Unkalkulierbarkeit und der Gefahr, und tatsächlich ist der Kontrast zwischen der pedantischen Sauberkeit eines indischen Haushalts und der ver- dreckten Strasse spektakulär. Ob etwas Schmutz ist, hängt allein davon ab, wo es liegt: Weil man vom Draussen sowieso nichts zu erwarten hat, sind Schmutz und Müll dort auch kein Dorn im Auge, darf man seine leere Kartoffelchipstüte getrost auf den Boden segeln lassen, zu den anderen.

Nach wochenlangen eher akademischen Versuchen, etwas zu begreifen, das nicht existiert – ein indischer Begriff des öffentlichen Raums –, platzte ich in einer Runde indischer Freunde schliesslich heraus: «Die Stadt ist kurz vor dem Zusammenbruch! Es ist wie Ausnahmezustand, wie Krieg!»

Es waren Verleger, Journalisten, Autoren – Mumbai-Experten, die sich meiner Mumbai-Bildung angenommen haben. Es klang nicht wie das Ergebnis einer langen, sorgfältigen Annäherung, der sie mit Lektüreempfehlungen und Gesprächen den Weg geebnet hatten.

«Das sehen wir auch so», sagte der Chefredak- teur eines grossen Stadtmagazins freundlich. Ich fasste Mut. «Dass die Mittelklasse-Ladys selbst dann ins Zugabteil stürmen, wenn es leer ist!» Das Wort stür-

men – ruhig wörtlich zu nehmen. Ich hatte schon oft Ellbogen in den Rippen; man nimmt nicht einmal die Mühe auf sich, atavistische Regungen zu verbergen. – «Wir müssen halt stets in Übung bleiben, um auf das worst case scenario vorbereitet zu sein», lächelte einer. Ein anderer: «Mumbai ist die schlimmste Stadt Indiens.»

Gut, sie wussten es also. Man hat ihnen lediglich, bei einem wholesome green salad in einem schicken Restaurant, die Erfahrung des frischen Schocks voraus, kann ihnen die offene Kinnlade anbieten und weniger Durchblick: «Nein, wenn die den Slum niederwalzen, wird hier nicht etwa mehr Platz sein», korrigierte man meine Vermutung, dass die geplante Umsiedlung der Slumbewohner in die Aussenbezirke eine Lösung sein könnte. «Dann wird's hier noch voller, sobald die ihre Wohntürme hochgezogen haben.»

Ein paar Tage vorher war ich in Dharavi gewesen, dem, wie einige schätzen, grössten Slum Asiens, mit zumindest der grössten Slum-Industrie, die nicht nur Mumbai und Indien mit ihren Produkten beliefert, sondern auch Gucci und Versace mit Leder, und deren Bäckereien Kekse bis nach Afghanistan und England schicken. 1,4 Millionen Menschen leben und arbeiten auf zwei Quadrat- kilometern. Der Slum liegt, nachdem die Stadt um ihn herumgewachsen ist, inzwischen in ihrem Herzen und wurde dadurch zu begehrtem Bauland. Aber mit seiner Recyclingindustrie, der Armee an Müllsammlern, preisgünstigen Arbeitern und Hausangestellten, die jeden Morgen in alle Rich- tungen Mumbais ausschwärmen, ist der Slum zu- gleich so etwas wie der Stoffwechsel der Stadt. Die Aufgabe der dort lebenden Menschen besteht im Herstellen und Aufrechterhalten einer Welt, an der sie selber nicht teilhaben.

Mumbai war immer schon zu klein. Heptanesia, der erste dokumentierte Name, verweist auf die sieben mit Fischerkolonien besiedelten Inseln, die die Portugiesen im frühen 16. Jahrhundert vorfanden und «Bom Bahia» – guter Hafen – nannten. Ab dem 17. Jahrhundert begannen die bis heute anhaltenden Landgewinnungsmassnahmen; die Inseln verschmolzen miteinander. Auch da, wo ich nun sitze und schreibe, war vor einigen Jahrzehnten noch das Arabische Meer.

Die Hälfte der schätzungsweise 14 Millionen Einwohner Mumbais lebt in Slums. Und ein paar wiederum leben so, als befänden sie sich eigentlich ganz woanders: Die sechsköpfige Ambani-Familie, eine der reichsten Familien der Welt, lässt sich gerade ein Haus fertigbauen, das 173 Meter und 27 Stockwerke hoch ist. Die ersten 6 sind für ihre Autos. Die nächsten für die 600 Angestellten. Kinosaal, Fitnessstudio und Helikopterlandeplätze sind auch vorhanden. Mit zwei Milliarden Dollar Baukosten gilt Antilia als das teuerste Wohnhaus der Welt.

Die Fluchtrichtung geht inzwischen gen Himmel – weg von der dampfigen Hitze, dem staubigen Basar, den zu vielen Körpern, Ausdünstungen, den knatternden Rikschas, den Abgasen. In Bandra, einem reichen Vorstadtviertel mit Bollywoodprominenz, werden alte Herrenhäuser in einnehmendem portugiesisch-indo-saraze-

nischem Stilmix nicht mehr saniert, sondern machen Platz für schwindelerregend hohe, exzentrisch verspielte Apartmenttürme, die stets wie aus der Proportion geraten wirken; Albträume aus zehn übereinander gestapelten griechischen Tempeln, für jede Familie einen. Oft sieht man um Spiegelglas-High-tech-Bauten noch die dürren, klapprigen Bambusgerüste, von denen immer wieder Arbeiter in den Tod stürzen, weil sie nicht abgesichert sind.

Harter Kampf um kleine Rechte

«Der Staat und die Interessengruppen unterdrücken die Arbeiter schon sehr lange», sagte Vinod Shetty zu mir, Anwalt für Arbeiterrecht am Obersten Gericht Mumbai. Als ich seine kleine Kanzlei betrat, war es ihm peinlich, dass ich barfuss kam. «Nein, ziehen Sie bitte Ihre Schuhe wieder an, das machen doch nur die einfachen Leute hier so.» Ich hatte fünf Paar Sandalen vor seiner Tür gesehen und meine ohne Umschweife hinzugestellt. Ihre fünf Besitzer, die gerade gingen, hatten keine Finger mehr; die Schneidemaschine, an der sie arbeiten, war bis vor kurzem noch nicht genügend gesichert. Shetty hatte die Arbeiter in ihren jahrelangen Protesten gegen die Firma unterstützt und kam, wie er nachsichtig lächelnd erzählte, dafür selber kurz ins Gefängnis. «Die Leute wissen um ihre Rechte, aber in Indien werden Protestbewegungen immer wieder zerschlagen. Wenn sie Waffen hätten, wäre hier schon morgen eine Revolution.»

Shetty arbeitet auch für die Arcon Foundation, die den Müllsammlern in Dharavi mehr Rechte und bessere Arbeitsbedingungen einzuräumen hilft. Er gab mir für meinen zweiten Besuch seinen Mitarbeiter Anil mit, einen Mann, nicht grösser als ein neunjähriges Kind, zierlich und mit einem beständigen Lächeln auf den Lippen. Er zeigte mir Orte, zu denen mich die Slumtour für Touristen nicht geführt hatte, und ich selbst war zwischendurch nicht sicher, ob es richtig war, sie zu sehen. Als wir ankamen, standen zwei Kinder auf einer Brücke, unter der in der Mittagshitze die Müllkippe brütete; jedes liess eine weisse Plastictüte an einem Faden im Wind aufsteigen, das zitternde Plastic flog auf, sank und stieg erneut, während hinter ihnen auf einer riesigen Werbetafel eine indische Familie in ihrem Wohnzimmer sass, mit sehr heller Haut und Vertrauen in ihre Bank. Wir balancierten über ein mächtiges Abwasserrohr auf die Müllkippe zu, die genaugenommen die erste Etappe der Recyclingindustrie ist, über Kot und schlafende Hunde hinweg. Auf dem Müll wuchsen, wie eine Schimmeldecke, zerfledderte Hütten, selber aus Müll gemacht, und manchmal traten Menschen heraus und taten das Unwahrscheinlichste: lächeln und die Hand zum Gruss heben, als wollten sie sagen: Alles in Ordnung hier.

Die Stärke des Ortes war, mich auflaufen zu lassen. Zwei Welten, die plötzlich in mörderischer Klarheit einander gegenüberstanden. Jedes Gefühl schien unangemessen, übergriffig, gar der Luxus solcher Reflexionen kann einen plagen.

Unter stickigen Zeltplanen zeigte mir eine Gruppe Frauen und Männer, wie sich Handys in Einzelteile zerlegen lassen; Draht zu Draht, Plastic zu Plastic. Ich lächelte anerkennend und verkrampft.

War ich Verbündete, Voyeur, Feind oder Kunde? Auch Elektroschrott aus dem Westen landet hier. – Wir gingen durch eine Gasse, die zu eng war für zwei, und kehrten in eine schwarze Höhle ein. Eine Schatzkammer zunächst; Berge aus Silber funkelten im Feuerschein des Ofens, doch es war Aluminiumschrott: Wir standen in einer Schatzkammer aus Gift. Ich sah noch lange die schweissnassen Männer vor mir, den Moment, als sie plötzlich aufschauten und mir Tee anboten und, als ich dankend ablehnte, cold drinks. Shetty hält den Slum für einen der sichersten Orte in Mumbai. Es mag stimmen. Als ich in der Geschäftszone des Slums Bananen kaufte, umringt von Kindern, zupfte mich ein Bub am Ärmel. «Madam.» Er hielt mir die fünf Rupien hin, die ich verloren hatte, ohne es zu merken.

Die Slumbewohner selbst hatten mit Strassenblockaden eine Revision der Umsiedlungspläne er- zwungen. In einer Wohnung im zehnten Stock kann man keine Gerberei, Töpferei oder Recyclinganlage unterhalten. Auch der Dorfplausch auf dem Weg zum Wasserhahn fällt weg. Was nützen sanitäre Anlagen und fliessendes Wasser, wenn das alles geopfert werden müsste? Aber auch die Mit- tel- und Oberschicht ist beunruhigt, denn sie verlöre ihre billigen Arbeitskräfte.

Einen Gedanken äusserte ich weder beim Rechtsanwalt Shetty noch in der Runde der Freunde: Ob das denn so schlimm wäre, wenn man die Erfahrung macht, dass man selber den Fahr- stuhlknopf drücken, selber das Essen kochen, die Blumen giessen und das Auto fahren kann. Die Empfindsamkeit gegenüber manueller Arbeit stammt, laut Shetty, noch aus dem gesetzlich längst verbotenen Kastenwesen, von dessen Vitalität man sich aber mit einem Blick in die Heiratsannoncen überzeugen kann. Auch die Freunde haben ihr Personal, vielleicht auch Shetty, und auch ich habe eine vom Vermieter (nach westlicher Sicht) schlecht bezahlte Putzfrau. Man selbst glaubt bereits, dass man im falschen Leben das Richtige tun kann, oder zumindest, dass das Falsche im Falschen schon besser ist als nichts: «Die Reichen hatten hier noch nie ein Problem mit Armut», erklärte mir Shetty. «Wenn sie ihren Reichtum verbreiten wol- len, stellen sie höchstens noch mal drei Leute mehr ein; noch einen Wachmann, noch einen Liftboy.»

Kollidierende Ordnungssysteme

Derweil überziehen die Zeichen der Armut die Stadt und lassen die Ordnungen einander über- lappen und kollidieren. Auf einer kleinen Kartoninsel bildet eine zerlumpte Familie ein komplettes Leben nach; schlafen, sich waschen, essen. In den Verästelungen eines Baums werden Besitztümer in Stoffbündeln aufbewahrt. Bunte Saris hängen am Eisenzaun eines Museums zum Trocknen. Fast augenzwinkernd wird die Stadtfläche von den Armen neu beschrieben, Innenwelten brechen sich ins Aussen. Mit erzieherischen Schildern, wie einst die britische Kolonialmacht, bemüht man sich um Kontrolle – halbherzig, denn meist sind sie auf Englisch und verfehlen die Zielgruppe, die Bildungslosen, denen beizubringen wäre: Don't spit. Honking

doesn't make the traffic light turn green. Oder auf einem Rasen: No praying, no playing.

Es ist ein Kampf zwischen verschiedenen Spielregeln. Wer kann, klinkt sich aus. Man bestellt Lebensmittel telefonisch oder geht in die Shopping-Malls: Hat man die Sicherheitskontrollen hinter sich, öffnen sich klimatisierte, abgeschiedene Welten, in denen man die Stadt nicht mehr hört, riecht oder spürt.

Und doch fand ich den stillsten Ort in Mumbai nicht dort, wo der Friede auf dem Prinzip der Ausschliessung beruht, sondern, auch wenn ich um den abendländischen Hang zur Verklärung von Armut weiss, am Ende einer Holzleiter, wo sich ein weites Meer aus Wellblechdächern über den stillen, weil autofreien Gassen auftat, wo sich bunter Plasticmüll sonnte, um später geschreddert und wieder zurückgeschickt zu werden in eine neue Runde Leben, als der aufsteigende Rauch aus den ausbrennenden Farbeimern einer kleinen Fabrik ein beinah sakrales Moment in dieser stillen Wüste aus Müll heraufbeschwor.

Es war der Eindruck, an die Rückseite der Welt gelangt zu sein und zu sehen, was sonst verborgen bleibt, den Fadenverlauf einer umgekrempelten Strickware: das, was ein Gewebe zusammenhält, auch uns.


NO BORER NO TOWDER
LONG LIFE
GRADE

Das erste große Stadtentwicklungsprojekt in Bombay war die Entfestung, die von Sir Bartle Frere, einem tatkräftigen britischen Gouverneur, ins Werk gesetzt wurde. Der Zeitpunkt der Niederlegung der Festungsmauern markierte die symbolische und tatsächliche Veränderung der Funktion Bombays. Die Stadt war kein britischer Vorposten mehr, sondern wurde durch den Baumwollboom der sechziger Jahre des 19. Jahrhunderts zu einer wohlhabenden Handelsstadt. Die Beseitigung der militärischen Schutzwerke verstärkte diesen Funktionswandel nur und machte ihn unumkehrbar. Durch den Zustrom von Bevölkerung und durch Bau- und Bodenspekulation stiegen die Grundstückspreise um ein Vielfaches, immer mehr Terrain wurde erschlossen.

Die Stadt wuchs und wuchs, der alte Festungsbereich, das heutige Vorzeigezentrum des Großraums Bombay, wurde neu gestaltet. Ein eindrucksvolles Ensemble neugotischer Gebäude an den Ufern - Oberstes Gericht, Universität, Post- und Telegrafenamt, die alte Kanzlei usw. - wurde zur ersten bewusst konzipierten Stadtgestaltungsmaßnahme im kolonialen Indien.

Das „Cotton Green“ vor dem Rathaus wandelte sich zum „Horniman Circle“. Damit war die Möglichkeit gegeben, dem Stadtzentrum eine formale Ost-West-Achse einzuschreiben, die vom Rathaus auf die Bucht zuführt, und dazu eine Nord-Süd-Achse, die später einmal den Victoria-Bahnhof mit dem Gateway of India verbinden sollte. Der Schnittpunkt beider Achsen wurde 1887 durch die Errichtung des Flora-Brunnens städtebaulich betont.

Die Regierung versuchte alles, um eine kohärente Stadt zu schaffen. Sie ließ Gebäude und Infrastruktureinrichtungen entwerfen und bauen, die geeignet waren, der Repräsentation ihrer Macht zu dienen. Diese Strategie aber stand in absolutem Gegensatz zu dem additiven, impulsiven Wachstum, welches das Festungsviertel seit seinem Bestehen charakterisiert hatte.

Doch die Boomjahre zwischen 1860 und 1870 schufen auch jene anarchischen Industrieareale im Zentrum der Halbinsel, in denen die Zuwanderer aus den ländlichen Gebieten siedelten. Diese Fabrikstandorte wurden zum Zentrum der indischen Stadt, die sich völlig von der nach westlichem Muster unterschied. Anders als in der Stadtmitte vollzog sich hier die Erschließung von Betrieben und Wohnhäusern unkontrolliert. Wie in einer traditionellen indischen Stadt entwickelte sich ein unentwirrbar dicht geknüpftes Gefüge aus Wohn-, Gewerbe- und Sakralbauten. Bombay, das waren zwei separate Städte, eine europäische und eine indische, mit eigenen Wohnvierteln, Plätzen und Parks, mit Märkten, Produktions stätten und Lagerplätzen, mit religiösen Bauten und Erholungseinrichtungen - ein Ort, zwei Welten.

Im Jahr 1900 war Bombay in die Reihe der wichtigsten Städte Indiens, ja Asiens, aufgerückt. Mit zunehmender Bevölkerungsdichte wuchs die Ausbreitung von Epidemien, und es wuchs die Umweltzerstörung. Der rücksichtslose Egoismus, der die Handelsstadt geschaffen hatte, wirkte weiter. Die Reichen entdeckten die Not-

wendigkeit von Planung immer nur dann, wenn in ihren Augen eine Katastrophe vor der Tür stand.

In den Jahren nach 1900 leistete der Bombay Improvement Trust die wichtigsten Beiträge zur Stadtplanung. Diese Körperschaft war 1898 ins Leben gerufen worden und hatte die Aufgabe, Erschließungspläne und Richtlinien für die Stadtentwicklung auszuarbeiten. Arbeitsschwerpunkte waren die Überwachung und Verbesserung der hygienischen und sanitären Situation, die sich mit dem Anwachsen der Bevölkerung zunehmend problematischer gestaltete, sowie die optische Verschönerung der Stadt.

Der Ansatz, die Stadt in physischer und zugleich visueller Hinsicht zu strukturieren, damit sie zu einem zusammenhängenden Ganzen werde, leitete eine neue Ära systematischer Planung und Stadtentwicklung ein. Die in puncto Stadtgestaltung wichtigste Maßnahme war die Anlage der Hornby Road (heute Dadabhai Naoroji Road). In einer Art Gestaltungssatzung wurde eine fortlaufende Arkade als vereinheitlichendes Element zwingend vorgeschrieben. Das Prinzip, privaten Bauherren Gestaltungsauflagen zu machen, wurde hier zum ersten Mal durchgesetzt und entwickelte sich zum zentralen Planungsgedanken bei allen größeren Stadterweiterungsvorhaben.

Eine weitere wichtige Rolle spielte der Improvement Trust bei der Umgestaltung bestehender Teile der hochverdichteten Innenstadt. Durch Sanierungs- und Stadterneuerungsmaßnahmen verbesserte der Trust die Wohnverhältnisse und versuchte so etwas wie eine soziale und kommerzielle Infrastruktur aufzubauen. Außerdem betrachtete er es als eine wichtige Aufgabe, Bauland nördlich der Stadt zu erschließen. Zwischen 1899 und 1900 wurde den Vierteln Dadar, Matunga, Wadala und Sion Bauland für neue Vorstädte ausgewiesen. Erstmals berücksichtigte man dabei das voraussichtliche Wachstum der Stadt und widmete sich auf verschiedenen Ebenen realen Problemen, statt sich bloß in Utopien zu flüchten. Außerdem wurden die Instrumente der Stadtplanung zur Stadtgestaltung genutzt und hygienische und infrastrukturelle Anforderungen mit ästhetischen Zielsetzungen verbunden.

Die Trockenlegung des Apollo-Gebiets (südlich des Festungsbereichs), die 1869 abgeschlossen war, machte es möglich, in den folgenden dreißig Jahren Gebäude wie das Mahal-Hotel, den Yacht Club und später dann den Gateway of India zu errichten. Die Planungen bescherten Bombay nicht nur eine prächtige Stadtsilhouette, besonders an der Wasserseite, sondern auch neue Wohnviertel zwischen dem Apollo Bunder und dem Colaba Causeway. Den nun etablierten Richtlinien des City Improvement Trust folgend, entstand im Süden Bombays ein weiterer, anspruchsvoll gegliederter Stadtteil.

Wenn auch eine Reihe kleinerer Projekte die Stadtverwaltung bis in die zwanziger Jahre hinein beschäftigte, sollte erst das Backbay Projekt die Phantasie der Planer wieder stärker herausfordern. 1929 wurde eine große Regierungsanleihe aufgelegt, um mehr als vierzig Quadratkilometer Land westlich des renovierten Festungsbereichs durch den Marine Drive zu

erschließen: eine geschwungene Straße mit einer Stadtpromenade, die quer über das neu gewonnene westliche Uferland an der eindrucksvollen natürlichen Bucht entlangführen sollte. 1940 war der heutige Zustand erreicht. Die ursprünglich geplante Promenade wurde niemals fertiggestellt, am südlichen Ende bricht sie einfach ab. Trotzdem hat Bombay durch diese großartige städtebauliche Geste eine eindrucksvolle Wasserfront erhalten, die die gesamte Bucht beherrscht und gestalterisch zusammenfaßt.

Das Projekt sollte höchsten architektonischen und städtebaulichen Ansprüchen genügen, Wohnungen mit gehobenem und luxuriösem Standard, öffentliche Einrichtungen und solche für Vergnügen und Freizeit bieten. Die Regierung, entschlossen, größtmöglichen Profit aus dem Projekt zu ziehen, vereinfachte die Grundrisse und unterwarf die Parzellierung des Geländes dem Prinzip maximaler Verdichtung und optimaler Verwertbarkeit. Damit verkam ein Projekt in schönster Lage, das mit so großen Hoffnungen und Erwartungen begonnen hatte, zur kommerziellen Spekulation.

Ganz anders noch hatten die Briten bei ihren Wohnungsplanungen für die Oberschicht am Cuffe Parade oder im Gebiet der Apollo Reclamation die einmal gesetzten Standards befolgt. Der Marine Drive war, wenn man so will, Vorbote einer neuen Ära der Stadtentwicklung, die bis heute andauert und engherzige Ziele verfolgt, die auf einem banalen Pragmatismus und sehr eingeschränkten Gestaltungsansprüchen beruhen. Dieses Projekt brachte einen immensen Zuwachs an Wohnraum, der zu einer weiteren Verdichtung des Zentrums führte anstelle neuer Wachstumspole im Norden. Das Backbay-Projekt symbolisierte darüber hinaus einen wichtigen Wandel im Geist Bombays: Die viktorianische wich einer kosmopolitischen, internationalen und modernen Stadt.

Obwohl die Regierung und der Improvement Trust bis in die dreißiger Jahre immer mehr Bauland im Norden auswiesen, gestaltete es sich äußerst schwierig, die Bevölkerung nach dem Willen der Stadtoberen umzuverteilen und den Süden der Inselstadt zu entlasten, denn alle größeren Arbeitgeber befanden sich ausschließlich im südlichen Stadtzentrum.

Erst in den vierziger Jahren änderte sich die Situation, als die industrielle Elite und die Klasse der eingeborenen Geschäftsleute das Wachstum der Vorstädte zu fördern begannen und Wohnsiedlungen für die Mittelklasse und die Ärmeren ihrer Gemeinden finanzierten. Dieser Drang in die Vorstädte hatte auch mit dem wachsenden Druck zu tun, dem Bombay durch die Einwanderung zunächst von Flüchtlingen aus Pakistan, später dann auch aufgrund der Elendsmigration aus dem Hinterland ausgesetzt war.

Angesichts der Bevölkerungsexplosion, die die Stadt in den Jahren nach der Unabhängigkeit erfuhr, flüchteten sich die Stadtplaner in Visionen. Durch die Verteilung der Wohn- und Gewerbegebiete sollte ein Großraum aus vielen, in sich selbständigen Gebieten (wie Bandra, Kurla oder Oshiwara) um das eigentliche Bombay

herum entstehen. 1964 wurde ein Entwicklungsplan für den Großraum vorgelegt, der den Ausbau der Stadt in den kommenden Jahrzehnten weitgehend bestimmte. In den Flächennutzungsplan wurden zwei konzeptuelle Gedanken neu eingeführt.

Das war einmal der Geschoßflächenindex. Dieser gibt das Verhältnis der Gesamtbruttogeschoßfläche zu der Gesamtfläche des Grundstücks an, auf dem es steht - vergleichbar der GFZ im deutschen Baurecht. Für die einzelnen Stadtteile wurden unterschiedliche Dichten festgesetzt. Die Einführung von Ausnutzungsziffern als abstraktes Kriterium städtebaulicher Planung war ein klarer Bruch mit früheren Ansätzen, in denen Regeln zur Stadtgestaltung gebietsweise und unter Berücksichtigung der Umgebung aufgestellt worden waren. Jetzt hingegen versuchten die Planer, eine Vision für ganz Bombay zu entwerfen, in einem großen Maßstab, der bei Umsetzung und Durchführung nach Standardisierung verlangte.

Die zweite bedeutende Idee, die aus dem Entwicklungsplan von 1964 hervorging, war die Errichtung von New Bombay. Als Reaktion auf jenen Plan, der ein Wachstum in nördlicher Richtung propagierte, arbeiteten Charles Correa, Pravina Mehta und Shirish Patel einen Alternativplan aus, der vorschlug, das Wachstum nach Osten auf das jenseits des Hafens gelegene Festland zu verlagern, um den Druck auf den Großraum Bombay zu vermindern. Deshalb empfahlen die Autoren die Errichtung einer zweiten, unabhängigen Stadt. Angelpunkt ihres Vorschlags war, den Sitz von Regierung und Stadtverwaltung nach New Bombay zu verlegen, um der neuen Stadt Leben und Bedeutung zu geben und um den Nord-Süd-Pendlerstrom von Osten nach Westen zu lenken. Die Bevölkerung sollte ausgewogen auf beide Städte verteilt werden, ebenso die Einwanderer, die mit der Elendsmigration aus den ländlichen Gebieten ab den siebziger Jahren die Stadt immer mehr überschwemmten.

Diese beiden planerischen Ansätze verfolgten entgegengesetzte, ja widersprüchliche Ziele. In New Bombay ging es um langfristige Optionen für eine dynamische Stadtentwicklung, bei der Festlegung des Geschoßflächenindex um die Nachverdichtung in städtischen Gebieten, die als unter genutzt angesehen wurden. Beide Strategien erhöhten mit einem Schlag die Menge des bebaubaren Landes in der Stadt. Die Widersprüchlichkeit des Entwicklungsplans führte dazu, daß einerseits New Bombay hinter den Erwartungen zurückblieb, andererseits vollzog sich eine unumkehrbare Verdichtung der alten Stadt.

Damit war das Scheitern des Planungskonzepts vorprogrammiert. Nach wie vor weitete sich die Stadt nach Norden aus. Es entstanden genau jene Schlafstädte, vor deren langfristig schädliche Auswirkungen der New-Bombay-Plan gewarnt hatte. In den neunzig er Jahren spielten Architektur- und Gestaltungsfragen in Bombay endgültig keine Rolle mehr. Abstrakte Kenngrößen bestimmten die Form der Stadt - ökonomische Gleichungen, demographische Daten, das Steueraufkommen und städtische Einkünfte wurden die wichtigsten Parameter zur Definition der Stadt, nicht länger Architektur und Städtebau.

Wilde Siedlungen und Slums bilden heute den größten Teil Bombays.

Im heutigen Bombay ist das ökonomische Verhältnis von Ausbeutung und Abhängigkeit der wichtigste Faktor, der die Gestalt der „zwei Welten" in der Stadt prägt und der ihnen ihre Standorte zuweist. Die eine Welt ist statisch und monumental in ihrer Präsenz und besetzt die hochgelegenen Stellen der Stadt; die andere breitet sich entlang der Transportlinien aus und nutzt alle Zwischenräume und Risse in der städtischen Struktur. In dieser zweiten Welt existieren Äquivalente für alle Bausteine der „urbanen" Stadt - eigene Plätze, Märkte, Produktionsstätten. „Zwei Welten" an einem „Ort", den sie aber unterschiedlich begreifen und nutzen. Die Einrichtung von Basaren in den viktorianischen Arkaden im alten Festungsbezirk ist ein emblematisches Zeichen für diesen Konflikt; die Konfrontation verschiedener Nutzungen und Interessengruppen erfordert neue Planungsansätze, die die historischen Muster berücksichtigen.

Bei der Entwicklung Bombays war die Expansion nach außen stets von einem Wachstum und einer Anpassung im Innern begleitet. Seit den fünfziger Jahren jedoch sind die planerischen Versuche, die das Wachstum nach außen fördern sollten, immer zaghafter geworden; man beschränkte sich darauf, die bestehende Struktur zu verwalten. Ein Involutionsprozeß lief ab, bei dem die Stadt immer mehr Menschen und Aktivitäten an einem Ort zusammenzog. Damit wurde die Stadt im Innern komplizierter und für Störungen anfälliger. Mit der Veränderung der Bevölkerungszusammensetzung wird die Lösung des Problems der nach innen gerichteten Entwicklung immer drängender. Heute bilden die Besitzlosen die Mehrheit und besetzen alle irgendwie verfügbaren Zwischenräume der Stadt.

Das Fabrikengelände in Parel, das ungefähr 15,6 Quadratkilometer einnimmt, ist das Schlüsselprojekt für einen Neuanfang bei der Stadterneuerung. Wenn diese große Fläche im geographischen Zentrum der Stadt angemessen genutzt wird, könnte sie einige der städtebaulichen Mängel beheben: das Fehlen von Schulen, Hospitälern, bezahlbaren Wohnun- gen und einer ganzen Reihe wichtiger Dienstleistungen, die für das Wohlbefinden der meisten Bewohner der Stadt und gerade für jene, die schon hier auf diesem Gelände hausen, von entscheidender Bedeutung sind.

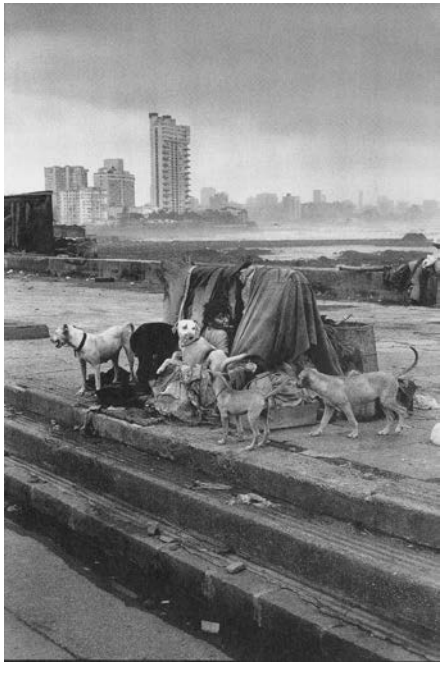
In ähnlicher Weise müssen auch Erhaltungsstrategien für ältere historische Viertel wie den Festungsbereich mit Visionen für die ganze Region verbunden werden. Die Erneuerung und innere Strukturierung dieser Gebiete muß zur Entwicklung von New Bombay in Beziehung gesetzt werden, der Ausbau nach außen muß sinnvoll verknüpft werden. Wenn man sich z. B. entschlösse, im historischen Zentrum die Entwicklung zum zentralen Geschäftsbezirk und Finanzplatz zu fördern, sollten andere Funktionen, etwa die der Regierung, nach New Bombay verlagert werden. So würde im Süden Bombays Platz frei für zusätzliche Raumansprüche eines internationalen Finanzzentrums, andererseits könnte die Präsenz der Regierung in New Bombay dort entscheidende Wachstum-

simpulse geben, so wie das in dem dreißig Jahre alten Plan vorgesehen war.

Die gesamte Ostküste Bombays ist von minderwertigen Nutzungen belegt, viele Gebäude stehen leer. Sollten sich die Lagerhäuser und Hafeneinrichtungen nicht schrittweise nach Nhava Sheva verlagern, wodurch der Osten Bombays Entlastung bekäme? Zudem ließe sich damit eine Sichtverbindung zwischen Bombay und New Bombay herstellen, und man könnte tatsächlich spüren, daß Teile des alten Bombay und von New Bombay auf die zwischen beiden Städten liegende Bucht bezogen sind. Durch die Gleichzeitigkeit dieser städtebaulichen Gesten - die Eröffnung eines neuen Viertels, die Umgestaltung eines bestehenden - umarmten, metaphorisch gesprochen, die ältesten Teile Bombays die Stadt der Zukunft.

Auf der Detailebene liegt die Herausforderung bei der Transformation der Stadt darin, Widersprüche nicht zu verschärfen, sondern abzumildern. Die Existenz zweier Welten an einem Ort bedingt, daß sich verschiedene Lebensweisen, Nutzungen und Architekturen miteinander verschränken. Die Arkaden im Festungsbereich, zum Beispiel, sind ein städtisches Element, das zeitgenössisch interpretiert werden könnte. Als architektonische und städtebauliche Lösung besitzen sie eine unglaubliche Elastizität. Sie können neuer Nutzung zugeführt werden, ohne daß ihr architektonischer Wert leidet. Warum soll man sie nicht zur Fußgängerzone umbauen und zugleich den Straßenhändlern unter viktorianischen Arkaden Raum geben für ein vielgestaltiges Basarleben? Mit solchen planerischen Strategien ließe sich die Stadt leichter ökonomischen und sozialen Veränderungen anpassen.

In einer städtischen Landschaft, die von schnellen Transformationen bestimmt ist, sind dauerhafte Lösungen unmöglich. Wir Architekten können nur Vorschläge für die Gegenwart entwickeln und gleichzeitig in unseren Entwürfen die wichtigsten Komponenten unserer historischen Architektur bewahren. Indische Basare in viktorianischen Arkaden könnten zum Symbol einer Stadt werden, die die Vergangenheit für die Gegenwart und vielleicht auch für die Zukunft in sich aufzunehmen versucht.



Slum-Ökonomie in Dharavi

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Dharavi gehört zu den größten Slums in ganz Asien. Die Siedlung in Bombays bester Lage liegt unmittelbar am Stadtzentrum, nur fünf Minuten von der nächsten Eisenbahnstation und zehn Minuten vom Flughafen entfernt. In Dharavi leben 600 000 Menschen, in den benachbarten Gebieten noch einmal 400000. Dharavi beherbergt Tausende von kleinen Gewerbebetrieben, die nicht nur der lokalen Versorgung dienen. Hier werden hochwertige Taschen und Schuhe, Körbe, Bürsten, Keramiken , Textilien und Lebensmittel für Bombay oder den Export hergestellt. Die Hütten sind überbelegt, die Mieten hoch, die Einkommen niedrig.

Pratima Panwalkar

Einst war Dharavi ein Dorf im äußersten Norden von Bombay, ein Teil der sieben Inseln, die das Stadtgebiet bildeten. Noch 1865 als Wohnort einheimischer Fischer im „Imperial Gazeeter“ erwähnt, wird Dharavi 1872 in die Stadtbezirke von Bombay eingegliedert. Auch heute noch gibt es hier ein Fischerviertel mit etwa 100 Haushalten, vielfach Nachfahren der ursprünglichen Landbesitzer. 1887 wurde die erste Gerberei in Dharavi gegründet. Der große Schlachthof in Bandra, in nächster Nähe von Dharavi, begünstigte die Entwicklung des Gerbereiwesens und anderer Zweige der Lederherstellung. Die örtliche Bevölkerung war für eine Beschäftigung in diesen Industriebetrieben jedoch nicht zu gewinnen. In den 90er Jahren des 19. Jahrhunderts begann deshalb die Einwanderung von Tamilen aus dem Staat Tamil Nadu. Eine andere Bevölkerungsgruppe von Dharavi, die Töpfer, wanderte zu Beginn des Jahrhunderts aus Gujarat und Saurashtra zu - gegenwärtig gibt es in der „Töpfersiedlung“ 1500 Haushalte. Zur gleichen Zeit begann auch die Zuwande-

rung einer armen Landbevölkerung aus dem Staat Maharashtra und den nördlichen Staaten von Uttar Pradesh und Bihar. Diese Menschen, zumeist ungelernt und Analphabeten, bildeten für den wachsenden kommerziellen und industriellen Sektor in Dharavi ein großes Arbeitskräftereservoir. Mit der Zeit wagten sich immer mehr Siedler, selbständige Tätigkeiten auszuführen, die die ganze Palette haushaltsnaher Dienstleistungen und Produktionen umfaßten. Dharavi blühte ökonomisch auf.

Ein Großteil des Landes, auf dem sich die Siedlung entwickelte, wurde dem Meer an der Mahim-Bucht abgerungen, die noch vor 50 Jahren für ihre Austernbänke und Vogelschutzgebiete berühmt war und heute wegen ihrer Verschmutzung durch Ölschlamm, Abfall und Abwässer berüchtigt ist. Dharavi besteht gegenwärtig aus 67 einzelnen Slumvierteln und einigen zusätzlichen Siedlungen. In die wild wuchernden Barackensiedlungen sind „legale“ Wohnquartiere eingestreut. Hier leben vor allem städtische Angestellte. Die exakte Einwohnerzahl von Dharavi ist niemandem bekannt. Schätzungen gehen jedoch davon aus, daß hier mindestens 600000 Menschen leben.

Das Siedlungsgebiet ist 175 Hektar groß, davon gehören 104 Hektar der Bombay Municipal Corporation, 43 Hektar sind im Privatbesitz, und 28 Hektar sind Landbesitz der Regierung. Die unterschiedlichen Besitzverhältnisse werfen sowohl für die Siedler als auch für die Organisationen, die Sanierungs- und Entwicklungsprogramme entwickeln und durchführen, eine Vielzahl von juristischen Problemen auf.

An zwei Stellen grenzt Dharavi an Bahnlinien; eine Ringstraße erschließt das Stadtzentrum. Drei Hauptstraßen durchqueren die Siedlung, die, ganz dem planlosen Wachstum folgend, von kleinen Gassen und Straßen durchschnitten wird. Dharavi gleicht einer kleinen Stadt: ein konsolidierter Slum, mit Häusern aus Ziegeln, Asbest, Blech und anderen haltbaren Materialien. Die Gebäudezählung von 1987 erfaßte über 20000 temporäre Bauten, ungefähr 10 000 dauerhafte Gebäude und 6000 Mischtypen. Wie in dieser Art von Slum üblich, sind über 80 Prozent der Gebäude anderthalb- oder zweigeschossig. Die Haushaltszählung ergab 32000 Mieterhaushalte und 10000 Eigentümerhaushalte.

Schon 1972 wurden von der Slumsanierungsbehörde verschiedene Versorgungseinrichtungen im Gebiet errichtet, unter anderem sechs Schulen, sieben Apotheken, eine Polizeistation mit einem Außenposten und ein Berufsbildungszentrum. Straßen wurden geteert und Gehwege befestigt, die einzelnen Wohnquartiere, die „Chawls“, wurden an das Wasser- und Stromnetz angeschlossen, ein Kanalisationsnetz wurde aufgebaut, Gemeinschaftstoiletten angelegt. Jedoch erwiesen sich all diese Bemühungen aufgrund der unzureichenden Anzahl und Qualität dieser Einrichtungen, der unterlassenen Instandhaltung und Reparatur und des sprunghaften Wachstums der Bevölkerung als vergeblich. Auch das Problem der Abfallbeseitigung ist nach wie vor nicht gelöst.

Die günstige Lage hat Dharavi zu einem wirtschaftlichen Zentrum aufblühen las-

sen. Die „Erfolgsstory“ von Mohammed Ilyas ist typisch für Dharavi. 1979 erwarb der 37jährige Schneider für 4000 Rupien 75 Quadratmeter dem Sumpf abgewonnenes Land und errichtete darauf eine kleine Kleiderwerkstatt, die Exporteure mit ihren Produkten belieferte. Mit dem Boom der Textilexporte in den 80er Jahren boomte auch sein Vermögen. Für Dezember 1992 hatte er seine erste Auslandsreise geplant, um selbst ins Exportgeschäft einzusteigen. „ Ich war dabei, geschäftlich richtig in Schwung zu kommen, und hätte bis 1994 den Wert meiner Produktion auf 30 Millionen Rupien verdoppelt“, erzählt der Unternehmer. Doch bei den Unruhen des Januar 1993 wurde einer seiner Fertigungsstätten mit Dutzenden gerade neu aufgestellter Maschinen niedergebrannt. „Es kann nun keine Rede mehr davon sein, meine Produktion zu verdoppeln. Doch wenn ich hart arbeite und die Gewalt aufhört, werde ich hoffentlich bald wieder den Stand von 1992 erreichen. „

Abul Baqa kam 1948 nach Dharavi, als die Gegend noch ein einziger Sumpf war, in dem es nur ein paar Gerbereien und einige illegale Schnapsläden gab. Heute steht er mit dem multinationalen Konzern Johnson & Johnson in Wettbewerb und exportiert pro Jahr Darmsaiten für medizinische Zwecke im Wert von 17,5 Millionen Rupien. Baqa sagt: „Die Leute kamen ohne alles, sie haben ihren Reichtum dem Sumpf abgerungen. 99 Prozent der Menschen hier haben sich alles selbst erarbeitet. Darin besteht das Geheimnis von Dharavis Erfolg.“ Als nach den Januarunruhen die meisten der achtzig Arbeiter seiner Fabrik flohen, kam die Produktion zum Erliegen.

Mit einer Bevölkerung von 600000 Menschen auf 1,75 Quadratkilometern ist Dharavi dichter bevölkert als andere mittelgroße Städte in Indien. Dharavi ist aber unvergleichlich - ein Gewirr von eng zusammengestellten Baracken, in denen die unterschiedlichsten Güter produziert werden, von Tontöpfen über indische Backwaren, J. C. Penny‘s Lederwaren bis zu Kleidern für den Export. A. Jockin von der National Slum Development Federation erklärt: „Dharavi ist praktisch eine separate kosmopolitische Stadt innerhalb Bombays. Zwei Drittel der Bevölkerung arbeiten in der Barackenstadt, und der tägliche Umsatz liegt leicht bei 7,5 Millionen Rupien.“

Die Fertigkeiten der Migranten haben unorthodoxe Geschäftszweige entstehen lassen. So liefern beispielsweise tamilische Familien pro Tag Tausende dampfender Idlis an die Udipidi-Restaurants der Stadt; Töpfer aus dem Gujarat liefern Trinkwassertöpfe, Familien aus Bihar stellen an Handwebstühlen Hunderttausende von Wischlappen her. Doch das beste Beispiel für den Geist Dharavis sind die Toffees aus Palmensaft. Die Herstellung dieser Chiki ist eine wichtige Heimindustrie der Gemeinde. Dharavi war anfangs von Gerbereibetrieben und der lederverarbeitenden Industrie geprägt. Gegenwärtig gibt es etwa 400 Betriebe, darunter 30 Gerbereien, die 3000 Menschen Arbeit geben. Der hohe Exportanteil der Fertigprodukte führte zur Ansiedlung von eleganten Lederwarengeschäften entlang der Hauptverbindungsstraße Sion-Bandra. Die Arbeitsbedingungen in den Betrieben sind jedoch brutal:

primitive Fertigungsmethoden und Rücksichtslosigkeit gegenüber der Gesundheit und Sicherheit der Arbeiter, Umweltschutz ist unbekannt. Als der Schlachthof in Bandra zu Beginn der 70er Jahre geschlossen wurde, gab es verschiedene Pläne zur Modernisierung der Lederindustrie. Vor allem mit Blick auf das Exportpotential wurde ein ehrgeiziger Plan für die Umsiedlung der Lederbetriebe auf bereits erworbenen Grundstücke in der Nähe des neuen Schlachthofes entworfen. Bis auf einige Gutachten ist das Vorhaben nicht weiter gediehen.

Dhavari ist zugleich die Wiederverwertungskapitale des Landes: Tagtäglich werden ganze Wagenladungen von Plastik, Altpapier, Alteisen, Gummireifen, Glas und Textilabfall recycelt. Diese Materialien werden von Abfallsammlern und Händlern aus der Stadt angeliefert und zum Wiederverkauf aufbereitet, sei es als Fertigprodukt oder als Rohmaterial. Jeder freie Platz, sogar auf den Dächern, wird zum Trocknen und Sortieren des Materials benutzt. In den letzten zehn Jahren ist die Anzahl der Recyclingbetriebe gewachsen. Begünstigt durch den leichteren Zugang zu Wasser und Elektrizität, setzen sie längst moderne Maschinen und moderne Technologie ein.

Doch mit den gewalttätigen Unruhen von 1993 und den andauernden ethnischen Konflikten ist die ökonomische Basis von Dharavi brüchig geworden. Werkstätten und Läden wurden zerstört, Tausende von Menschen sind in ihre Dörfer geflohen. Statt Gewerbefleiß nun ethnisch-religiöse Konflikte: Dharavi erweist sich als Mikrokosmos für die Tragödie Bombays.

Bis 1993 hatte die Slumstadt keine größeren gewalttätigen ethnischen Auseinandersetzungen erlebt. Die einzige ernsthafte Bedrohung kam von außen, als zu Beginn der 70er Jahre die Shiv Sena mit Gewalt gegen die Menschen aus Südindien vorging. Damals allerdings blieb Dharavi ruhig und vom Rest Bombays weitgehend isoliert. „Auch als es im übrigen Bombay zu Ausschreitungen kam, gingen die Geschäfte in Dharavi normal weiter“, erinnert sich N. Bakkiyanatham, der Besitzer eines Ladens für Fernsehgeräte. Und er fügt hinzu: „Ich habe Dharavi stets als ein Beispiel des harmonischen Zusammenlebens zwischen den nach Ethnie, Sprache und regionaler Herkunft verschiedenen Bevölkerungsgruppen betrachtet.“

Zwei Jahre intensiver Propagandakrieg seitens radikaler Hindu sowie die Unfähigkeit der indischen Kongreßpartei und der Regierung haben in Dharavi zu einer Polarisierung zwischen Hindus und Muslimen geführt. Besondere Aufregung verbreitete sich unter den tamilischen Hindus, als ein 17jähriger Jugendlicher unter mysteriösen Umständen verschwand, nachdem er mit einem muslimischen Freund in ein von Muslimen dominiertes Quartier gegangen war, um Frieden zwischen den feindlichen Parteien zu stiften. Aruma Nayagam erklärt: „Ich lebe seit 1950 in Dharavi, und nie ist es zu Kämpfen zwischen Muslimen und Hindus gekommen.“ Jetzt wurde eine Mauer zwischen dem Hinduviertel Palwadi und dem muslimischen Nawabnagar hochgezogen; die Einwohner leben in ständiger Furcht, innerhalb ihres Quartiers in eine

weitere Auseinandersetzung zwischen den religiösen Gruppen hineingezogen zu werden. Wenn die gereizte Stimmung zwischen den Bevölkerungsgruppen sich nicht beruhigt, könnte es sein, daß man die Uhren in Dharavi auf Dauer zurückstellen muß. Heute jedenfalls fürchten sich die Leute, wie ein alter Einwohner erzählt, allein durch das Gassengewirr bis zum Bahnhof zu gehen.

Die Siedlungsstruktur in den einzelnen Teilen von Dharavi begünstigt die Herausbildung sozial homogener Bewohnergruppen mit gemeinsamer regionaler, sprachlicher und religiöser Zugehörigkeit. Auf lokaler Ebene gibt es einflußreiche, meist autokratisch und zentralistisch strukturierte Organisationen, die die Interessen einzelner Gruppen vertreten. Im Mittelpunkt ihrer Arbeit stehen soziale und pädagogische Aktivitäten auf lokaler Ebene. Besonders stark treten sie an den religiösen Feiertagen in Erscheinung. Verhandlungen der lokalen Organisationen mit staatlichen Instanzen sind eher sporadisch. Zudem verlangen Probleme wie Abfall- und Abwasserbeseitigung, Wasserversorgung, Verkehrserschließung und Stadthygiene Lösungen für ganz Dharavi, damit sind Gruppen, die sich auf Nachbarschaftsangelegenheiten beschränken müssen, aber überfordert. Selbstverständlich findet Dharavi mit seinen 350000 Wahlberechtigten lebhaftes Interesse bei Politikern. Die Wahlbeteiligung und das politische Engagement sind sehr hoch. Wie die Bewohner selbst stolz vermerken, sind die Gründe dafür im starken Zusammengehörigkeitsgefühl und in den allen gemeinsamen Aufstiegshoffnungen zu sehen. Obwohl es Armut gibt, sind bei weitem nicht alle Bewohner von ihr betroffen. In die Ausstattung der Wohnräume wird viel Geld investiert, in fast jeder Hütte steht ein Fernsehapparat, ein Antennenwald breitet sich in der Siedlung aus, und in Videopalästen drängen sich Kinder und Jugendliche.

Schon 1919 wurde ein Entwicklungsplan für Dhavari vorbereitet. Die Erschließung der südlichen Mahim-Bucht sollte die Voraussetzung schaffen, hier ein Wohngebiet für die Oberschicht zu errichten, während große Flächen mit billigeren Grundstücken, die in der Nähe der drei Eisenbahnlinien liegen, welche die Siedlung begrenzen, für arme und mittlere Schichten der Bevölkerung zugänglich sein sollten. Die Umsetzung dieser Pläne wurde jedoch durch den Protest der ansässigen Fischer verhindert. 1936 kam es im Rahmen von Programmen zur Slumsanierung zu marginalen Verbesserungen. 1945 wurde ein anderes Programm vorbereitet, das dazu beitragen sollte, die Lebensbedingungen im Gebiet dem Niveau in anderen Teilen der Stadt anzunähern, vor allem aber sollte es der für die Nachkriegszeit erwarteten starken Nachfrage sowohl nach Bauland für Wohnungen als auch nach Entwicklungsflächen für Fabriken entsprechen.

In den folgenden Jahrzehnten schmiedete man für die Sanierung und Entwicklung des Gebiets immer wieder Pläne, die aber allesamt nicht vorankamen. Erst 1983 wurde eine neue Studie für Dharavi in Angriff genommen und ein umfassender Entwicklungsund Sanierungsplan vorbereitet, der jedoch vor allem aufgrund der

mangelhaften Zusammenarbeit zwischen der Planungsinstanz und der Staatsregierung, die für die Slumsanierung in der Stadt zuständig ist, ad acta gelegt wurde. Die günstige Lage des Gebiets und die steigenden Bodenwerte der von Baracken besetzten Grundstücke weckten in den folgenden Jahren allerlei Begehrlichkeiten, die auf eine private Realisierung der Bodenrente zielten. Doch erst Mitte der 80er Jahre wurde allgemein erkannt, daß den Spontansiedlungen in bezug auf die politische Ökonomie der gesamten Stadt große Bedeutung zukommt. Die aufblühende Wirtschaft und die wachsende Erkenntnis, daß eine Standortverlagerung wegen der zu hohen Kosten und des eklatanten Mangels an Grundstücken nicht in Frage kommt, veränderten die Politik gegenüber den Spontansiedlungen: Von nun an stand die Modernisierung und Entwicklung der Slums auf der Agenda. 1985 wurde unter der Führung von Charles Correa eine Task Force zusammengestellt, um entsprechende Planungen zu entwickeln. Die Regierung in New Delhi stellte eine Milliarde Rupien Förderungsmittel bereit.

Das Correa-Komitee empfahl eine Strategie auf Gebiets- und Blockebene. Auf Gebietsebene wurde die Modernisierung des Entwässerungssystems, der Ausbau der Wasserversorgung sowie die Befestigung von Straßen vorgeschlagen. Auf Blockebene wurde die Sicherung von Nutzungsrechten, die bauliche Aufwertung der Behausungen und der Neubau von Infrastruktureinrichtungen für das Quartier empfohlen. Die Gruppe wollte die Verdrängung ansässiger Bewohner soweit wie möglich vermeiden. Selbsthilfe bei der Verbesserung der Wohnungen und des Wohnumfeldes wurde zum unvermeidlichen Bestandteil von Sanierungsstrategien. Von der 1 Milliarde Rupien, die die Zentralregierung bereitstellte, war allein ein Drittel für Dharavi bestimmt.

Die Silhouette von Dharavi ändert sich, und überall werden Modernisierungsmaßnahmen durchgeführt. Die wachsende Stabilität der Siedlung hat hier eine neue Unternehmerschicht hervorgebracht. Offen bleibt, ob die physische Restrukturierung des Gebiets diesem ökonomischen Wandel folgen kann. Hinzu kommt eine nicht ganz unrealistische Furcht vor der „Gentrifizierung" des Gebiets durch Angehörige der Mittelschicht, die mit der Modernisierung einhergehen könnte. Die Kosten für ein Mietshaus in einem Modernisierungsprojekt sind bereits dramatisch gestiegen, die Grundstückspreise haben sich verdreifacht bis vervierfacht. Auch einzelne SI-umbewohner wollen von der Aufwertung des Standorts profitieren und beginnen mit Grund und Boden zu handeln.

Das Durcheinander von heute bietet Raum für jede Art von Spekulation, und dabei werden die Glücklosen immer Opfer von Gerüchten und Manipulationen sein. Hoffen wir, daß der Zusammenhalt in der Nachbarschaft dazu beiträgt, umsichtig und rechtzeitig auf Eingriffe von außen zu reagieren. Die Mehrheit der Bewohner von Dharavi wartet ab und beobachtet. Das hat ihnen bis heute ein relativ ungestörtes Dasein garantiert.

Kenneth Frampton, „The work of Charles Correa“
in: Gastdozentur Mathias Müller und Daniel Niggli, ETH Zürich, *Indien. Mumbai, Ahmedabad*, Seminarreisereader HS 2010, Zürich 2010, S. 92-102.

Over the last three decades India has gradually seen the emergence of a contemporary architectural culture of exceptional caliber, one that bears comparison with the finest work being produced elsewhere. However, outside the subcontinent much of this architecture remains unknown and the names of its practitioners unfamiliar. Perhaps the most significant exception to this is the architect Charles Correa. Like other Indian architects trained in the West, Correa had to adjust his approach in the late fifties to the socio-economic realities of Indian society even if these are now somewhat less restrictive than they were at the beginning of his career. Despite the evident drawbacks of working in a Third World country, Correa has always maintained that, like Le Corbusier, he had been privileged to work in an Indian context with its strong sunlight and plentiful labour, two factors that favored the use of reinforced concrete, not to mention a climate that with the exception of the monsoon season was usually quite benevolent.

This last factor accounts for Correa‘s preoccupation with what he calls „open-to-sky space,“ paradigm that, irrespective of its many variations, is still a pervasive theme in his architecture. However, this was not the only type-form that Correa would derive from the exigencies of climate. The second crucial formulation, particularly suited to hot dry climates, was his so-called „tube house,“ a form that was conceived as a means for conserving energy in a society that, in the main, cannot afford air-conditioning. This extruded house type stemmed in part from the Moghul tradition and in part from the megaton form adopted by Le Corbusier after the war.

Correa‘s first tube house was developed in 1962. As a generic type it was the complete antithesis of the open-to-sky concept. Here a narrow dwelling, twelve feet wide, with sloping roofs and vents situated at the point of their intersection, was focused on an internal patio, which in fact was barely open to the sky at all. Clearly the raison d‘être for this introspective form was to shield the house down in the heat of the day; thus protecting its inner volume from the sun, while simultaneously facilitating cross-ventilation. This last by virtue of the Venturi effect, would pass through the tube to be exhausted as hot-air through the broken ridge between overlapping pitched roofs. Throughout the first twenty years of Correa‘s independent practice, these two paradigms - the „open-to-sky space“ and the „tube dwelling“ - will manifest themselves largely in the field of housing, although the use of the former as the nexus for the creation of symbolic public space was implicit from the outset, particularly in two works dating from 1958; these were the Handloom Pavilion built in the Pragati Maidan, Delhi and the Gandhi Smarak Sangrahalaya built at the Sabarmati Ashram in Ahmedabad. .

During the first two decades of his career, „habitat“ would remain the dominant discourse through which Correa would manipulate these forms, engaging in a combinatorial game with cellular housing patterns of exceptional ingenuity. Regrettably, many of these

Handloom Pavilion

Gandhi Smarak Sangrahalaya

Ramkrishna House

Parekh House

projects will remain unrealized, including some squatter housing designed for Bombay in 1973. At the same time Correa will apply the tube idea in a number of private houses; including the magnificent Ramkrishna House, Ahmedabad (1964), that was a deluxe version of the original tube-house prototype. He would proceed to apply the same notion to the even more articulate brick and concrete Parekh House, Ahmedabad (1968), that in its turn was related to housing designed in 1967 for Cablenqgar Township in Rajasthan. The Parekh House afforded an opportunity to render the tube house concept as two different sections, set side by side. These sections responded to different summer and winter conditions, while being part of the same continuous dwelling volume. In effect the house was divided down its length into two different pyramidal sections. The first with a wide base and a narrow top functioned as the summer section , thereby closing the house down at the upper level, while the second served as the winter section, since it was, in effect, an inverted pyramid that in opening the house at the top, provided for a lightly shielded roof terrace covered with a pergola.

A section organization of a more traditional character will be employed by Correa in the lush tropical vegetation of South-East India. I am thinking in particular of the Kovalam Beach Resort, completed in Kerala in 1974 and of the equally elegant Bay Island Hotel built at Port Blair in the Andaman Islands in 1982. In this last, timber shade-roofs, suspended over public terraces, deflect one's vision downward towards the ocean. The stepped interlocking roofs of the earlier Kovalam Beach Resort will descend the slope in a similar way, deflecting the prospect down towards the sea.

However, the Kovalam Beach building also calls our attention to another feature of Correa's architecture, namely his habit of manipulating floor levels so as to create different domestic settings at the scale of the micro-space. Apart from their incidental debt to Adolph Loos, these displacements remind one of Jorn Utzon's perception that in the West one gravitates towards the wall, whereas in the East one turns towards the floor. Thus one may find in Correa's work subtle level changes having a certain oriental character that simultaneously serve to articulate different living zones in a particular vivacious way. We can see this clearly at Kovalam where the kitchenette of each unit is raised above the living area so as to provide long views over the sea.

Correa's Loosian penchant for sectional displacement, accompanied where appropriate by changes in the floor surface, is at its most elaborate in the 28-story, Kanchanjunga apartments completed in Bombay in the same year. Here Correa pushed his capacity for ingenious cellular planning to the limit, as is evident from the inter-lock of the one and a half story, split-level, 3 and 4 bedroom units with the two and a half story 5 and 6 bedroom units. Smaller displacements of level were critical in this work in that they differentiated between the external earth filled terraces and the internal elevated living volumes. These subtle shifts enabled Correa to effectively shield these high rise units from the effects of

Kovalam Beach Resort

Bay Island Hotel

Kanchanjunga Apartments

Sonmarg Apartments (Correa and his wife in their own apartment)

both the sun and the monsoon rains. This was largely achieved by providing the tower with relatively deep, garden verandahs , suspended in the air . Clearly such an arrangement had its precedent in the cross-over units of Le Corbusier‘s Unit habitation built at Marseilles in 1952, although here in Bombay the sectional provision was achieved without resorting to the extreme of differentiating between up- and down-going units. Not all of Correa‘s high rise apartments were so elaborate, however, as one may judge from his earlier and much simpler Sonmarg Apartments of 1966 or his five-story CIDCO housing completed in Bombay in 1973.

In terms of the low-rise, high-density housing, at such a premium throughout India, Correa‘s concept of disaggregating cellular living space implies the possibility of gradually upgrading the unit with incremental additions. Such an ad hoc strategy is inseparable from Correa‘s overall attitude towards planning and urban development. Close to the pioneering work of John Turner, particularly in his self-build, low cost housing proposals, Correa openly acknowledges the crisis of perpetual urbanization in India and the fact that housing for the vast majority will never be met through conventional methods. As he was to put it in his book The New Landscape of 1985:

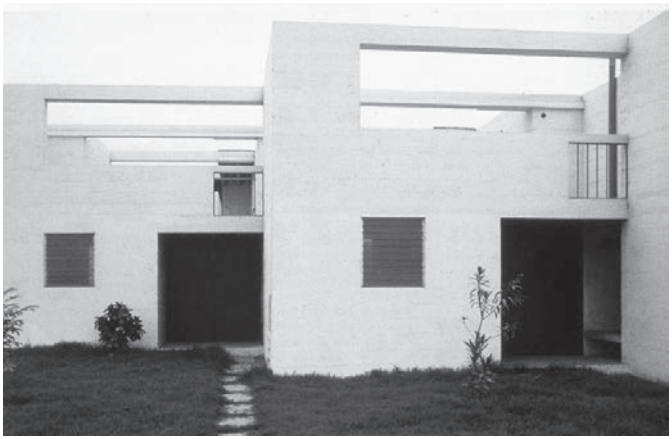
„For too long have we allowed the densities of our cities to be determined by individual commercial developers - higher densities triggering off higher land values, and vice versa, in an increasingly vicious spiral, like a serpent that feeds off its own tail.“[1]

As Correa continues, this has led to inhuman environments that have stubbornly ignored the fact that in warm climates space itself is the primary resource. While recognizing the punitive constraints attending the realities of urban poverty, Correa would also demonstrate his ability to design for the housing needs of a newly urbanized lower-middle class, above all in the prototypical housing that he designed for Lima, Peru in 1973. This so-called PREVI two-story housing type consisted of an ingenious assembly of T, L, and S shaped units, although in the final version the built units followed a much simpler formation.

Over the last two decades a great deal of Correa‘s low-rise, high-density housing has in fact been realized for India‘s urban middle class as in the Tara Housing settlement built on the outskirts of New Delhi in 1978. Four stories high and clustered about a central community space, the Tara project comprised 120 narrow-fronted, two-story duplexes stacked on top of one another. Accessed either at the ground or at the second floor, these relatively standard megaton dwellings all confirmed to the same module; three meters wide and six meters high.

As he has matured Correa has drawn closer to the primordial tradition of the patio house, a type that is as much Mediterranean as it is Indian. This reinterpreted classic paradigm is clearly the basis for his own house and studio recently completed in Bangalore, the so-called Koramangala House. Here an uncanny charm derives from the simplest of conjunctions. In first instance there is the subtle ying-yang assembly of the house and the studio spiraling around a central square court containing a single tree. In the sec-

Belapur Housing (CIDCO)



Previ Housing

Tara Housing

Koramangala House

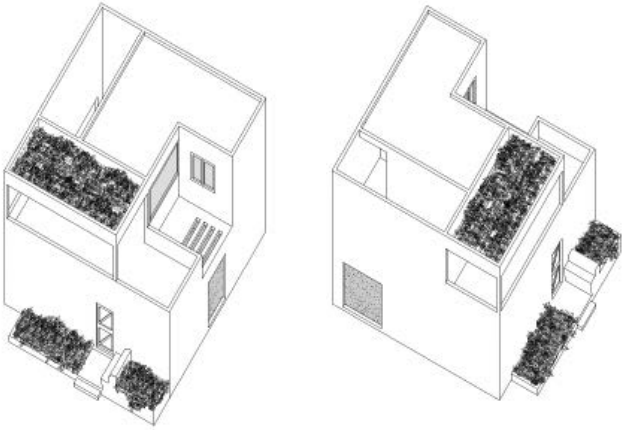
ond instance, there is a reinforcement of the symbolic and practical import of this „open-to-sky“ space by virtue of cylindrical columns, resting on square granite bases, set at the four corners of the square. These columns, needless to say support timber trusses carrying the impluvium itself with its tiled roofs. This Mediterranean parti, with antecedents running back to Pompei, is at once inflected by spatial devices of a local origin, above all the ingenious manipulation of the patio perimeter, particularly in respect of the studio which is separated from the larger L-plan of the house by a staggered corner sequence reminiscent of the entryways into Rajasthani havelis. The square micro-stoa that surrounds the central open-to-sky space is not disturbed by this inflection. On the contrary its sense of immutable calm is enhanced by these subtle displacements particularly because the „Iabyrinthic“ wall of the studio is extended into the interstices of the enclosed volumes, especially where tiled stairways with stepped balustrades rise up to serve the bedrooms at the first floor.

The broader implication of Correa‘s thinking about dwelling cannot be separated from his activity as an urban planner which is a crucial aspect of his work. In the company of his colleagues Pravina Mehta and Shirish Patel, Correa first entered the lists as an urban planner in the second half of the sixties with extremely pertinent proposals for the expansion of Bombay; plans which have lost nothing of their relevance during the thirty years that have elapsed since their initial formulation.

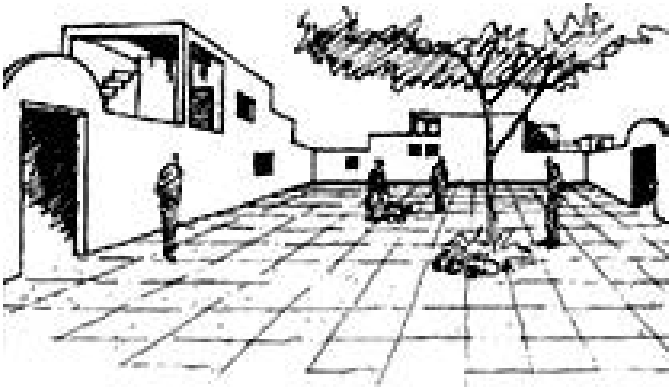
Given the vast commuter-cum-squatter implosion into and around the built-up area of Bombay that was already beginning to escalate out of control from the mid-fifties onwards, with workers commuting as much as four hours each way, in order to work in the center, Correa and his colleagues proposed the creation of a New Bombay across the harbour. The State Government put this plan into action, and between 1970 and 1974 Correa served as chief architect to then newly created City and Industrial Development Corporation (CIDCO). The acquisition of some 55,000 hectares of land by CIDCO, for the purpose of ccommodating some two million people by 1985, gave Correa the opportunity of addressing the housing needs of the poorest sector of the population, through the hierarchical articulation of „open-to-sky“ spaces within a single story urban fabric. As he put it:

„..... Living in an Asian city involves .much more than the use of a small room. Such a cell is only one element in a whole system of spaces people need in order to live. This system is generally hierarchical consisting of four major elements: space needed by the family for exclusively private use such as cooking and sleeping; areas of intimate contact i.e. the front doorstep where children play, you meet your neighbour, etc.; neighbourhood places e.g. the city water tap where you become part of your community; and finally, the principal urban area e.g. the maidan (open space) used by the whole city.“[2]

Arguing that at least three quarters of the essential activities, cooking, sleeping, and entertaining, etc. can take place in private courtyards for seventy percent of the year, Correa proposed a



ACC Housing



HUDCO Housing

Electronic Corporation of India Limited

MRF Headquarters

single story, mud brick, thatched roof residential fabric, interspersed with courtyards of various scales and character. As far as Bombay was concerned, the second most crucial factor was the provision of a transportation network capable of affording cheap and rapid access to employment in the center. To this end Correa projected a complex infrastructure running out at its extremities to the villages of Taloja, Panvel and Uran and comprising a linear net of looped bus routes, feeding the settlements through a series of short „necklaces" that in their turn would be linked back to a future rapid transit spine feeding directly into, the center of Bombay. As a further and more recent development of the same plan Correa projected the so-called Ulwe node, comprising some 1580 hectares, descending from the hills to the Waghivali Lake, in the central business district of New Bombay. Once again a future rapid transit line is to be the central axis of the entire scheme with „swags" of train lines picking up the village traffic to either side of the rapid transit and thus bringing the commuters to the rail stations and hence to the city center. Between the villages and the rapid transit line lie large maidans to either side, and these spaces are further articulated as communal squares, one for each village. The overall plan is designed to accommodate seventy percent of the population not more than ten minutes walk from either a tram stop or a railway station.

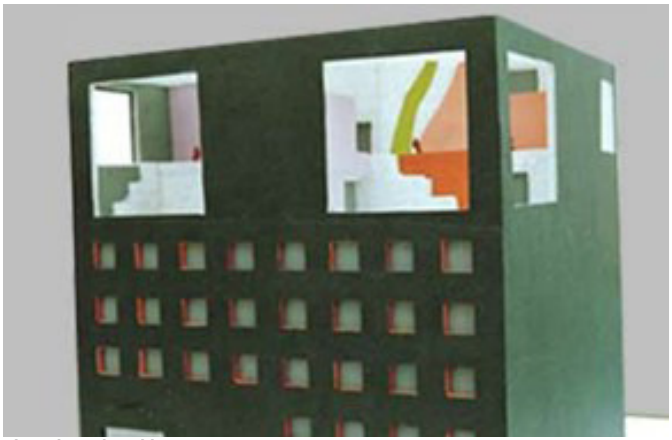
Unlike the rest of New Bombay, Ulwe is structured as an ecological, land-management system involving the creation of a series of retention and holding ponds and the further provision of an elaborate system of drainage and flood control. It is envisaged that this hydraulic landscape would provide for all sorts of incidental economic activities from the cultivation of vegetables and fruit, to fish farming and garbage treatment, this last being geared to the production of bio-gas. Correa envisages all this as an urban equivalent of Gandhi's rural economy program. Brilliantly worked out in many of its details, the Ulwe plan also allows for its phased realization and one only hopes that within a few years it will still be possible to bring it to fruition.

Aside from the six story stepped terrace middle-class apartments that Correa built while he was chief architect of CIDCO, the only housing stock that he has so far realized in New Bombay is in the Belapur district. Distancing himself from any particular class image, Correa designed his Belapur prototype as a combination of several „L" shaped pitched roof units enclosing private open-to-sky spaces within low bounding walls. Such a cluster formation spontaneously produced a larger „open center / open corner" square settlement pattern which when combined with three other such squares produced a further level of aggregation; a 12 x 12 meter square linking 21 houses. This larger pattern generated a serpentine Radburn layout, in which the clusters were pulled back from the outer perimeter of the block to provide inset parking, while the jagged inner open space form was irrigated by a small stream or nallah, provided to drain away storm water. By walling-in the site of each house, Correa was able to cross class and economic lines by offering units of different size and cost within the

LIC Center Mauritius

LIC Center New Delhi

Indian Embassy NY



Alameda Park Building

same cluster. At the same time the house allowed for its subsequent expansion and for the modification of its cellular form. Needless to say, we will find variations of this same patterning principle, with contiguous walls, in many other housing schemes including the ACC Township in Andhra Pradesh of 1986 and the HUDCO Housing project for Jodhpur of 1986.

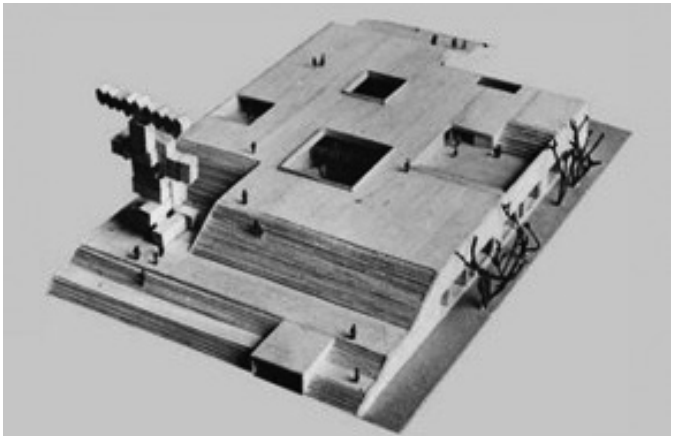
Among the various typologies that Correa has entertained during his practice none is more general and partial in its implications than the large oversailing shade roof or parasol which, while it has assumed different forms in different works, is nonetheless always ·associated with the various bureaucratic institutions that he has designed during the course of his career. This element first appears at a large scale in an office complex for the Electronic Corporation of India Limited (ECIL), built in Hyderabad in 1968. In this instance a three story complex is made up of three linked but independent T-shaped office clusters that would fail to attain any kind of corporate unity were it not for the parasol that envelops them at roof level and runs around the perimeter of the building, as a deep overhang, from the southwest to the northeast elevations.

Much the same formal strategy will be employed for the MRF Headquarters at Madras of 1991, although here the building is shielded by a shade roof extending across the north western arc, from due west to due north. Here as in the ECIL building, the parasol continues across the top of the central/entry patio. The LIC center in Mauritius, built some two years later, also adheres to the same principle, although in this instance, the oversailing shade roof and the seven story portico serve to establish the building on its corner site as a classic bâtiment d'angle.

In his 1986.paradoxical LIC Center in New Delhi, Correa will create the parasol as an enormous space frame, running along the northern side of a long block. Regrettably this is an office building that in attempting to mediate between two totally conflicting forces fails to serve either. On the one hand it is patently not of the same order as the high rise development rising behind it, on the other hand it fails to relate to the scale and form of the classical colonnade running around the perimeter of the nearby Connaught Circle.

Patently influenced by Louis Kahn in its play between the „served" status of the curtain-walled office space and the „servant" character of masonry shafts, faced in red sandstone, the LIC Center abandons .the quasi-Loosian, pierced-window aesthetic that Correa had adopted for almost all of his office buildings, up to that point including the Indian Mission to the United Nations in New York faced in red enameled steel and the more recent Alameda Park building, projected in 1996 for Mexico City, as part of a large piece of urban renewal area, now in the process of being realized according to Legoretta's eight block master plan. In this instance Correa's cubic office block will be faced throughout in black tufa, with 2 three-story roof top loggias facing out over the park. It is intended that each of these monumental volumes will be decorated by a full height mural painted by a local artist within the Mexican

Gandhi Darshan



Indian Pavilion Osaka

Bharat Bhavan Arts Center

Surya Kund

mural tradition. As with Correa's other office structures, these crowning loggias will be covered by louvred parasols.

Correa first broached what he refers to as a „ritualistic pathway along a shifting axis" in 1958, with his Delhi Handloom Pavilion which consisted of a square, multi-leveled, labyrinthic podium, built out of sun-dried bricks, open terraces shielded from the sun by fifteen cable-supported canvas parasols (chatri), each covering one of the sixteen squares into which the podium had been divided. The sole square that remained open in the asymmetrical „center" consisted of a garden court around which the spiraling itinerary of the exhibit revolved, doubling' back on itself over four different levels that were interconnected by either ramps or stairs. Correa would take a more strictly tectonic approach to the same theme in his commemorative museum for Mahatma Gandhi that he completed in 1963 for the Sabarmati Ashram in Ahmedabad. This consisted of a strictly gridded space elevated above the ground. Rendered in a fair-face brick and concrete syntax but strongly influenced by Moghul architecture at its most abstract, (c.f. Fatehpur Sikri), the Gandhi Museum remains one of the most compelling national monuments erected anywhere in this century. As Correa was to put it in 1989:

„... the great Islamic mosques of Delhi and Lahore are at the other end of the spectrum: they consist mainly of large areas of open space surrounded by just enough built form to make one feel ‚inside' a piece of architecture .... This ying-yang relationship (open-to-sky-space surrounded by solid built forms , and vice versa) generates figure/ground patterns in which the open spaces can act as areas of visual rest between enclosed volumes - a principle of enormous potential for museums. For not only does this pattern create the opportunity to provide a combination of concentration and relaxation, it also opens up the possibility of offering the visitor alternate paths through various sections of the museum."[3]

After the Gandhi Museum, Correa's symbolic „open-to-sky" space assumed a more organic and topographic character, one that was less determined by an overriding architectonic structure. This is at once evident in the memorial that he realised for Mahatma Gandhi's wife in Poona, in 1965, where the commemorative space is defined by a series of brick walls leading down as an undulating labyrinth to the samadhi itself. As in the Handloom Museum, the whole structure rests on a brick podium that in this instance houses a small museum.

Correa will return to the same form in a series of works that follow in rapid succession, the partially realized Gandhi Darshan, Ragighat (1969), the unrealized Indian Pavilion for the Expo ‚70, Osaka (1969), the Cochin Waterfront project (1974), and finally, the magnificently expansive Bharat Bhavan Arts Center built on the lake at Bhopal in 1981. Here the natural contours of the site were used to create an irregular „acropolis" of terraced gardens and sunken courts, around which a number of cultural facilities were organized comprising galleries, a museum of tribal art, a library, an enclosed and open amphitheater, workshops and studios for artists in residence. Following the Cochin Waterfront project,

Jawahar Kala Kendra

New British Council

Jawaharlal Nehru Institute of Banking and Finance

Cidade de Goa

this is the first occasion on which Correa will make extensive use of stepped terraces in the manner of the traditional stone bathing ghats.

Thereafter he will return to this motif repeatedly, first in a small, collective meditation space, the so-called Surya Kund built in Delhi in 1986, and then in the Jawahar Kala Kendra, built in Jaipur in 1992 as a Rajasthani crafts museum, dedicated to the memory of Jawaharlal Nehru.

This last is a complex symbolic work which represents a condensation of Correa's thought to date and is a demonstration of a synthesis which he has always sought between popular culture and archaic cosmology. As with the Indian Handloom Museum, the symbolic central square is left empty and bounded with ghat-like stepped terraces on four sides to create a kund which in this instance is dedicated to the sun (Surya). The other eight squares or mahals are each dedicated to a different planet and its attributes. The visitor's itinerary weaving its way through these squares is meant to recall the Vedic ritual route of the pradakshina which is effected here through openings on the central axis of each mahal. However this seemingly „circular" route does not have to be slavishly adhered to and the visitor is free to explore the different sectors of the compound at will. The most surprising and refreshing aspect of this entire complex is the way in which a radiant, popular architecture, replete with icons, is combined with antique lore, while at the same time retaining the vitality of contemporary craft activity. The implicitly regional character of this institution finds expression in the red Rajasthan sandstone with which it is faced, topped by copings in beige Dholpur stone. These are the same materials that were used for the Jantar Mantar Observatory at Fatehpur Sikri and in the Red Fort at Agra. In each mahal this revetment is enlivened by appropriate icons inlaid in white marble, black granite} and grey mica stone. At the same time the interior of the whole is enriched by local artists who have painted images of Krishna and other cosmic figures, together with Jain cosmological diagrams on the internal vaults and walls of the compound.

A similar mandala parti, structured about a central kund, will again appear in Correa's work in the late ‚80's, first in the new British Council at New Delhi and then in the premises of the Jawaharlal Nehru Institute of Development Banking at Hyderabad (JNIDB), both buildings being completed in 1992. Of these two works, the building for the British Council has the strongest initial impact, largely because of its portico which is decorated with a striking mural in white marble and black Kudappah stone, designed by the British artist Howard Hodgkin. This is one of those rare ‚instances in which the artwork makes the building rather than the other way around. It is a demonstration of the way in which a figurative abstraction in two dimensions can be used to activate a three dimensional space by paradoxically emphasizing its spatial depth. And indeed the most rhetorical aspect of this building is its „open-to-sky" portico, which vaguely recalls Schinkel's loggia in the Altes Museum, Berlin; a feature that is backed up by the central courtyard of charbagh on to which it opens, together

National Crafts Museum

State Assembly

Inter-University Centre for Astronomy and Astrophysics

with an ornamental garden situated to the rear of an elongated site.

Like the Mexican architect Recardo Legoretta, to whom he may be compared, Correa seems to be torn at times between pursuing colorful abstract compositions, vaguely referential to popular culture, as in his extremely scenographic Cidade de Goa of 1982, and a more direct evocation of an actual vernacular as we find this in the National Crafts Museum that he finally realized in New Delhi in 1991.

Closer in spirit to the Bharat Bhavan in Bhopal than to Jawahar Kala Kendra, this museum is not organized about a strict mandala pattern and while it is graced by a number of square courtyards, these are not treated as analogies of the Vedic kund, despite the fact that they are occasionally stepped to create informal arenas. Instead, the various courts give access to different exhibits opening off a meandering pathway in an informal manner; Village Court, Temple Court, Darbar Court, etc. As, in Bharat Bhavan, the podium is elaborated at two levels; on the ground floor through a series of courts and above through a set of roof terraces. At the same time most of the single story accommodation provided is totally enclosed. What is key here, as Jyotindra Jain has written, is that the whole museum is conceived after the timeless world of the Indian village where otherwise incompatible crafts exist side by side. Jain shows how the unofficial folk culture of India has always maintained its anarchic autonomy despite colonialising efforts to regularize the character of its production. Jain see~ the value of the National Crafts Museum as helping to maintain some resistance to the homogenizing forces of the late modern world.[4]

The last in the line of Correa's nine-square mandalas to date is his design for the new State Assembly in Bhopal, the capital of Madhya Pradesh. Although this work was put in hand in 1983, only now, after twelve years, is it finally nearing completion; a delay that is rather typical of the rate at which buildings come to be realized in India. Inspired in both plan and section by the hemispherical Buddha stupa at Sanchi and situated some fifty kilometers from the city, this building partially represents the mythical mountain of Meru.

However, within its circular perimeter the plan is orthogonally subdivided into nine compartments, with the four corners of the matrix being occupied by the circular Legislative Assembly, the Upper House, the so-called Combined Hall and the Library. For security reasons the mode of circulation in each sector is a self-contained independent system. Thus VIPs enter the building via an axis coming from the southeast, while the general public enters from the southwest. These two axial approaches culminate in a central square, which unlike the kund, as this appears in other mandala schemes, is covered by a pergola. After passing through a checkpoint the public may gain access to viewing galleries overlooking the three main halls through a complex system of ramps and elevated circulation. This promenade architecturale, to coin the Corbusian phrase, as being analogous to the ritualistic circumambulation that takes place around the sacred stupa at Sanchi.

The Inter-University Center for Astronomy and Astrophysics completed on the campus of the Pune University, near Pune City in 1992, is a much more somber work than the Jawahar Kala Kendra, in the main because the architect attempted to express overtly the dedication of the work to the exploration of outer space. Hence the „black on black" aesthetic, reminiscent of the American artist Ad Reinhardt, with walls faced in black basalt, capped by dark Kuddapah stone and a final course of glossy black granite. This dark masonry revetment, symbolizing astral space, brackets the main entrance, which in its turn frames two concrete columns that simply the axis leading to the central kund. In this instance, the kund is modified by a diagonal of granite slabs, embedded in grass, conducting the pedestrian to two adjacent courts situated at the extremities of the central space. This landscaped diagonal, disrupting the tranquility of the square, is also meant to represent a centrifuge of energy extending out towards the limits of space. Thus the concept of the kund is totally transformed, just as the organic plan, arising out of the collegiate typology and the shape of the site no longer conforms to the mandala concept. In many respects this assembly depends for its cultural legibility on the presence of literal icons, such as statues of Galileo, Newton, Einstein and the Indian Sage Aryabhatta, who more than fifteen centuries ago established that the world was round. The two peripheral courts are also landscaped in such a way as to represent scientific paradigms; the hostel quad being paved according to a fractal diagram known as Serpenski's gasket, while the computer court is structured about a figure representing Lagrange's Lobes.

Needless to say, Correa's architecture is a product of his formation; that is to say he has been influenced to an equal degree by both the lateral thinking of Richard Buckminster Fuller, who was one of his teachers in the United States, and Le Corbusier, whose stature both as an urbanist and an architect left an indelible mark on contemporary Indian architecture. This last is still evident today in the work of Correa, even if today he rarely makes any direct Corbusian reference. However, even the mandala form may be related back to the presence of a similar geometry as this appears in Le Corbusier's last work of consequence: his regrettably unbuilt project for the Venice Hospital made in 1965.

The other ethos that Correa shares with Le Corbusier is his faith in the presence of what Sigfried Gideon called the Eternal Present. This is the deep source that links Correa not only to his own youth in Goa but also to the absolutely inexhaustible history of a subcontinent where past, present and future co-exist in an all but indistinguishable continuum. „We live in countries of great cultural heritage," he says, „countries which wear their past as easily as a woman drapes her sari"[5].

Thus India for Correa is like the Mediterranean was for Le Corbusier; the source of a spiritual sustenance that is as universal in its implications as it is deeply rooted in the geo-physical conditions and mores of a particular place. Like other Indian intellectuals of his generation, Correa will find inspirational depth in the mythic and cosmological beliefs of the past. In this way he has been able to

elaborate partis that were initially somewhat schematic into works of poetic consequence. In opposition to the stylistic superficiality of Post Modern pastiche, Correa postulates three separate levels at which the environment maybe conceptualized and perceived today; first, as an everyday pragmatic given, second, as a domain where fashionable imagery of one kind or other will inevitably be present and , third, as an all but invisible cultural sub-stratum that rises , from time to time into the architectural unconscious of a particular region.

Correa argues that this triadic interplay is further modified by the way architecture evolves over time through the dynamic interaction of climate, technology, and the emerging aspirations of the society. Thus of the forces -shaping architecture in the modernizing Third World Correa writes:

„... at the deep structure level, climatic conditions, culture and its expression , its rites and ritual. In itself, climate is the source of myth: thus the metaphysical quantities attributed to open-to-sky space in the cultures of India and Mexico are concomitants of the warm climate in which they exist: just as the films of Ingmar Bergman would be inconceivable without the dark brooding Swedish winter. „The fourth force acting on Architecture is Technology. No other art feels its influence so decisively ... the prevailing technology changes every few decades. And each time this happens, architecture must re-invent the expression of the mythic images and values on which it is based."[6]

These two extremely succinct paragraphs effectively sum up the full scope of Correa's activities over the past three decades and the fact that changes in the technique of building have been far less dramatic in India than in other parts of the world may go some way towards explaining the apparent ease with which Correa has been able to reinterpret and reintegrate the past into an extraordinary body of work.

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3.) Museum Quarterly, UNESCO Review, No. 164, N:4, 1989, p. 223.

4.) Dr. Jyotindra Jain: „Metaphor of an Indian Street," Architecture + design, Delhi, Vol. VIII, N:5, Sept-Oct 1991 , p. 39-43.

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Bijoy Jain, „Praxis“

in: Toru Kato, *Studio Mumbai: Praxis*, Tokyo, 2012, S. 7.

“Praxis is the process by which a theory, lesson, or skill is enacted, practiced, embodied or realized. It may also refer to the act of engaging, applying, exercising, realizing or practicing ideas.”

All encompassing, the practice of the architect, whether tangible, ambiguous or theoretical, is primarily concerned with the nature of being. This ontological understanding in ‘Praxis’ may begin to express how the work at Studio Mumbai is created from an iterative process, where ideas are explored through the production of large-scale mock-ups, material studies, sketches and drawings to form an intrinsic part of our thought and body.

Projects are developed through careful consideration of place and a practice that engages intently in an environment and culture, the physical and emotional engagement of the people involved; where building techniques and materials draw from an ingenuity arising from limited resources.

Inspiration

in: Toru Kato, *Studio Mumbai: Praxis*, Tokyo, 2012, S. 27-35.

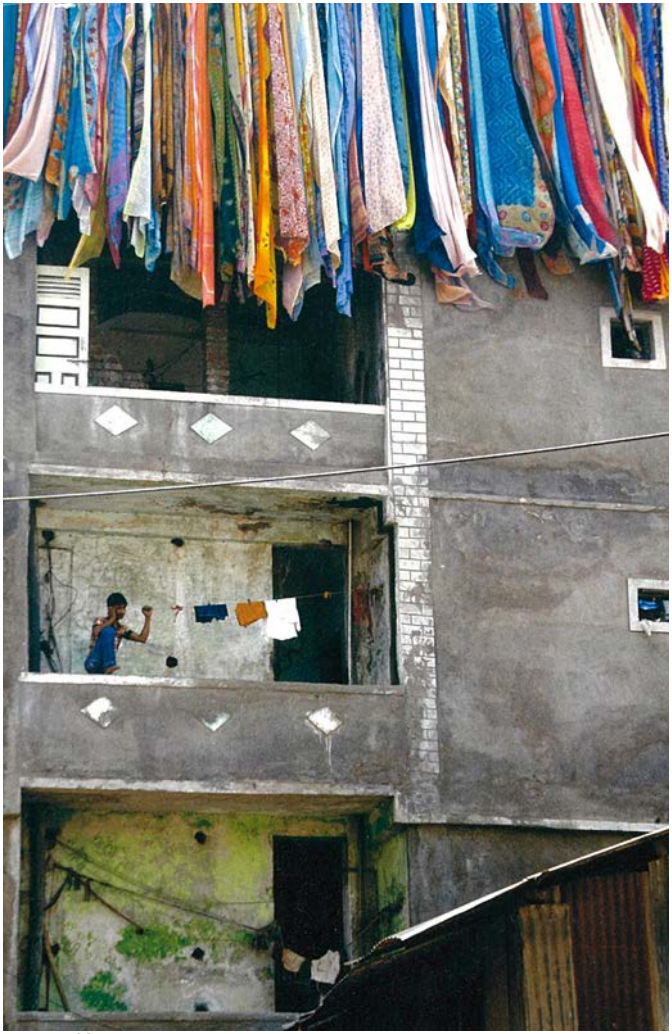
Collage Housing, Ahmedabad

Mosquito Net Colony, Surat

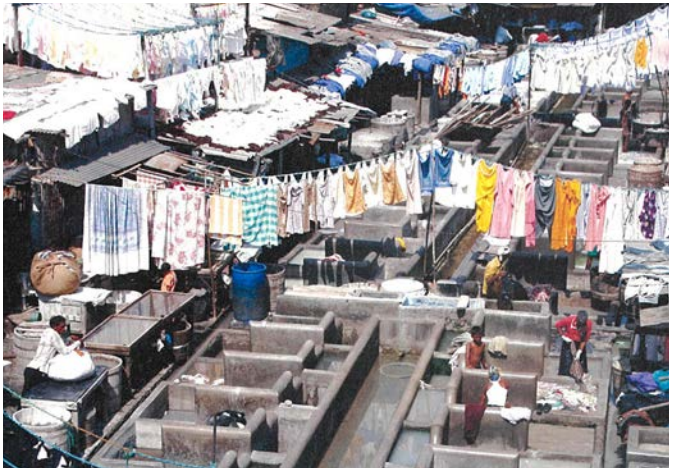
Collage Housing, Ahmedabad

Mosquito Net Colony, Surat

Saree Building, Surat



Saree Building, Surat



Dhobi Ghat, Mumbai

Cloth Shop, Ahmedabad

Dhobi Ghat, Mumbai

Cloth Shop, Ahmedabad

Demolition, Surat

Demolition, Surat

Interview with Bijoy Jain (May 2011), „Living and Working, Studio Mumbai“

in: Toru Kato, *Studio Mumbai: Praxis*, Tokyo, 2012, S. 9-15, S. 19, S. 21-25.

Studio Mumbai, ehemaliger Workshop

Interviewer:
Erwin Viray (Professor, Kyoto Institute of Technology)

Erwin Viray (EV) Thank you very much for giving us the great opportunity to have this conversation with you. Maybe you could start by talking about what Studio Mumbai is, and why “Studio Mumbai” is the name that you chose for this studio.

Bijoy Jain (BJ) Firstly, thank you for your generous participation. Studio Mumbai is formed by a group of people – made up of architects, artisans, carpenters, and masons, …brought together in the idea of building architecture or making architecture. The idea behind Studio Mumbai as a name is a more generic one: “Studio” being the place that we work in, much like a traditional atelier, and “Mumbai” to locate ourselves geographically. Alibag is where we have the practice, but it is in very close proximity to Mumbai.

To elaborate a little further, it is also a place for research and development towards building and architecture, whether it is materials, matters of making, or philosophical ideas of how they all come together. Studio Mumbai presents a scenario where ideas can be explored through making. While one thinks about or conceives the idea, there is immediacy in the experimentation or in the process of physically conceiving it, and then in responding to it in a way. This is broadly what we do.

EV You mentioned that it is a group of people and that there are craftsmen, artisans, architects and engineers among others, who are all these special people are?

BJ For example, I collaborate very closely with a lady called Dr. Kate Dineen. She lives in London and has a PhD in a particular lime plaster technique called Araish. But her strength is in the utilization and the understanding of color, so she is very much an integral part of the practice. Likewise, we have a Compagnon from France who has now settled in India – Jean Marc Moreno. He brings a very refined set of skills into the studio.

Our collaboration has spanned over several years, and there has been an evolution within that. Another extension is the carpenters who come from a long lineage. They are primarily from Rajasthan and all have a traditional background and training in carpentry, so they bring their skill sets. There are the stonemasons of this area working and practicing the art of cutting stone. It is a close collaboration with several different kinds of people, from different locations. Studio Mumbai is a place where they begin overlapping with each other. This is primarily the nature of how we are set up. Another important aspect is that we are always open to participation from the outside. When I say that, I mean that the idea or the act of building is primary, and to participate in it entirety, is to have that collaboration. I think that is most critical for us. The studio is open and allows for people to come in with the idea of exploration and of making architecture.

EV In these explorations of making architecture, you have all these people coming from different disciplines, different interests, and different occupations. What is the role of this coming together of people in making architecture?

BJ It is not so specific, and yet it is in some ways in terms of what I do. First and foremost I am a facilitator; like the conductor of an orchestra. It is pivotal for me to ensure that these connections or overlaps occur, and that there is a fluid communication between all these conditions. It is also important for me to give it direction, which is more of a loose framework that is open for discussion and dialogue. Somebody still needs to drive the car and that is the role that I have to play in the studio. The direction has some sort of clear definition. Once an idea is given form, or a concept has been articulated or activated, then the rest of the time is actually spent protecting and then supporting the concept to its fruition, so that the origin of the idea or the core of the idea remains central. The participation must occur around this core in order to see it in its full experience. I think that that is one of the roles that I play; nurturing the concept, because the idea is finally what needs to be experienced emotionally, physically, and experientially.

EV Can you talk about these ideas and how they come about? Where they come from?

BJ That is a difficult question to answer because they come from several different places. One is my own intuition (i.e., experiences that I have had), but also from every day experiences. Much of the documentation that I do is through photography, film, drawing and driving from place to place. There is a lot that one experiences and encounters through travel. There is an "osmosis" that creeps into your awareness; it is more of a registration. How that then physically manifests itself in projects, or how ideas come about is what is fascinating, because sometimes they remain latent for several years until they find an appropriate moment to express themselves.

EV So, everything somehow would be in a certain condition, everything would simply fall into place and allow for things to emerge?

BJ Yes, and I think that is important. But it also comes from a lot of work that one has to do: one of the things that we do is surveying the sun. For example, in this particular project - Hamied Residence, what was very critical was how to develop a project where the key to that place was the organization of these beautiful mango trees. It had been colonized at some point in time – there are levels and terraces – and the idea was to maintain a part of this creation that continues to exist on the site.

EV So, it's taking what the site has and then maybe dwelling the site?

BJ Yes. There is something that exists on site that has been nurtured over a period of time. We are now the new caretakers of the place, and must continue to nurture what has been set, but also our hope is to take it further and to realize a new potential along with what has been set on the ground. That becomes a critical basis of the conception of the project. All the actions that are taken, all the physical movements that occur, are done with the intent to nurture this fundamental core, which is one that we collectively agree upon as saying that, "yes, this is of value," "this is something that we take forward," and "how do we participate in this process in a way that extends, or takes further what is physically and emotionally there." There is a sense of history, of time, of participation... all of these overlays, of our time, of what the future is, of what can occur. It is woven in a complex way, where potentially all these points of view or points in time can co-exist.

EV People enjoying it and being in that place would somehow feel better?

BJ Hopefully. I think it must carry within itself all kinds of conditions. Not just feeling good, but feeling sad from time to time. I am not saying that in a negative way, but to conjure up all the possibilities of what we call "life" and to hold within it, "life". I think that is foremost the role of architecture: to contain life itself and everything that is within it. Those are just two very fundamental ideas, but potentially it has all these possibilities. In a

very simple way, that is what we work towards. We continuously ask those questions, because asking a wrong question and then walking towards it, could take you farthest away from what you are trying to do. The idea is to continuously inform the starting point, and every action thereafter, to reevaluate the origin of what we are doing. We keep returning to the core of the question, and through that the project will evolve. I think discretion is also critical in the process of conceiving something; in what you keep and what you take out.

EV Do you think that it requires adjustment too?

BJ Yes, discretion, adjustment and sharing are also critical when a decision has to be made collectively, of course when there are too many people it is difficult; but with a core group, It is in the nuances of what is said and what is not said. This is how we work, where a minimum of three people collectively get together in agreeing to an idea. It is not so much to not take responsibility, but I think what we achieve is a far more complex relationship with three different points of view.

EV In a place like this, you have all these people here. One can actually feel the energy that is in the workshop, hearing the sound of this work going on. How do you go about having a conversation with them? Or how do you go about orchestrating so they play their music very well in this whole process? You have here some sketchbooks and we also have some models here, and behind you we can see them working?

BJ I think one of the critical points in all of this is story telling, which is central to the idea of a dialogue. I think it is a universal condition where we can all connect with stories, because they have had an impact in some way, whether you are in Japan, India, or Italy, you will find similarity in certain experiences. Their expressions might differ, but the spirit of the condition is universal. One way is to discuss it through creating an atmosphere. Like I spoke about in this particular project, the atmosphere was the idea of nurturing these beautiful mango trees, which provide the shade, and create a particular environment. Now this can be replaced by olive trees maybe in Greece. So it is not the mango itself but the quality of what this condition creates, and being under this insight, under this environment. That becomes one of the bases to initiate the conversation, which conjures up images in everyone that are particular to themselves. Conversation then is the sharing of these images or experiences, or the sharing of these atmospheres and how they are then expressed, whether it is through sketches or drawings, a gesture, a photograph or through storytelling. This will then connect them to their own experiences, their memories and their possibilities.

Another way could be a physical construction, a physical object can also be the start of a discussion. To talk about the material, to understand what the material can do or how it can be expressed, this is something that the carpenters are extremely familiar with – they have spent most of their lives working with

wood. So they bring to the practice, a very intense understanding of making. Again, these are done without drawings. This is all done through memory, and through what has been passed on orally. What is interesting is that there is an ambiguity that allows for interpretation – an appropriate interpretation that is relevant to the situation that we are dealing with at that moment. It then becomes responsive to a certain point in time. The conversation can start from just a piece of timber, from the process of cutting it, planing it, and giving it shape and form; something can be conceived.

EV There is no step one?

BJ No, it is a non-linear route and an open narrative. But it also has its difficulties because there can be misunderstandings in those interpretations. So what is key and requires a lot of internal energy is to remain attentive to communication, and to sharing. I think the most critical part for our studio to be successful, is to remain open to sharing, in a sense what a community would do. It is this constant idea of transparency that is critical to our practice.

EV When you say transparency it is not the object itself, but the spirit of the person and how the person feels, how they think, how they work. Is there an issue of rapport and proper action in order to have this group of individuals?

BJ Yes, I think it is important because architecture is not a singular act. It requires a collective participation of several people depending on size and scale, no different from farming.

EV Being sensitive to working with the timing, in how they feel.

BJ There is a consideration that needs to be taken into account in the making of these things. I think architecture is about considering what is going to occur in a particular place and holding it in a way that supports the actions of the occupant through the occupancy.

EV Right, that is to begin to unfold…

BJ If this consideration is central to the making, then I think it naturally weaves itself; we can invite it into the spirit of that place. So yes, I think we are often surprised by the outcome of the project. For me what is exciting is not fully knowing the final shape, but having a sense for it. This sense is the most exciting part because you do not quite know what to anticipate.

EV Sometimes we may anticipate a variety of conditions, and then something totally unseen before may happen.

BJ For me, that is the important part. Our intent and what is central to the idea is to maintain a certain quality of unpredictability, and I think that is what we do not like. But this is what activates life. Life is unpredictable in every which way, and so when we say

that it needs to contain life, it needs to contain unpredictability, as one of many things. I like this idea of "vulnerability" in architecture because it humanizes it.

EV What is this in front of you? Are they drawings or sketches?

BJ These are drawings of the carpenters. Most of the people working in the studio maintain a sketchbook. I think in this case, the carpenter has taken it to another level. He produces ten to fifteen of these drawings every day. Also what is important is that it is a way to remain alert and attentive while the projects are being made: it gives enough space to make small adjustments at a very specific point in time. To take it further than where it had been fixed: for it to be pushed to the limit in terms of proportion, or a detail that might have been overseen. These are sketchbooks that we maintain and in many ways are our working drawings and make up a drawing set.

EV So it is a record and documentation, and through the documentation one is able to see things and then they make adjustments where they need to be fixed?

BJ Yes, but it is also a record of discussions that have occurred, and the evolution of parts of a building, or the building itself. And by looking at these drawings, one can go back and reconstruct in many ways the discussions that took place, how decisions were made from a particular sketch, and the evolution of that change.

EV It is wonderful, because the book itself tells a story, and is the unfolding of certain ideas.

BJ Yes, and it is interesting because you can trace the construction of the house or the building in the sketchbooks. It is an archive of the time and the evolution of the project itself.

EV So then one book can be made from all of these drawings: maybe one building, one project and then the evolution of the idea.

BJ Yes, through these sketchbooks. For this particular project (Copper House II) we have between twelve and fifteen books, that contain all the ideas, discussions, dialogues, details... They are all embedded in these books.

EV All the books all have red covers. Is there a particular reason?

BJ This is a very generic cloth that you see commonly used in India; all accounting books and ledgers are covered in this very inexpensive red fabric. It is quite robust and has been around for years. This goes back – I do not want to sound nostalgic – but several hundred years. Books would be covered in red. So we have adopted the same Idea. Studio Mumbai has a rubber stamp, and in India, everything is rubber stamped, to make it official: your passport, everything.

EV In many ways, Studio Mumbai has all these universal ideas about making architecture, but at the same time I think that it is also very specific to the conditions in which you work.

BJ I think that is key. One is a universal condition that can be applicable anywhere, but it is also important to locate oneself very particularly. It can be a hybrid; something that is a collection of many things, but it also needs to be responsive to place and time. We are very much interested in that idea of a bandwidth that can exceed its own physical limitations, but it is also appropriate that these limitations are allowed to oscillate.

[...]

EV You mentioned that you were always interested in house typology. It is interesting to see what anonymous houses can offer.

BJ Yes, that has been very important in our studies. We continuously use these anonymous pieces of architecture. I say anonymous not in a negative way, but that you do not know the maker – there is clearly a maker in the production of these projects. More than fifty percent of India is informally built. We are living in a country of a billion two hundred million people. The vast majority of the landscape is built in this way. My interest and curiosity is also in this informal landscape because there is an intuitive response and an honesty as a result of economics and limited resources. We respond very precisely to the conditions that we need to meet. These projects are very particular in shaping our thinking and the way we look at things. We use them to understand the projects that we are making because they also physically exist, and we are able to use them as mock-ups.

EV Seeing becomes an experience.

BJ Yes the proportions, the way they are made, the dimensions of structure... We can learn from these existing conditions using what we see and experience as a way to understand what we are doing, or are going to do.

Take for example some of the bigger projects in a city, one that is built mainly of stone. Here my interest lies in the fact that we have this very rigorous, intense culture of building, which is inclusive of many conditions that far exceed our limitations to see under the ground – usually, they extend themselves to the sky. I am influenced by many things it is not one specific thing. From Rem Koolhaas, to Peter Zumthor, and it is not that one is better than the other it is about how everyone sees, what they see, and why they see it. It is important to ask what it is that motivates them to do the things that they do. I think in that, there is learning, and in there lies the potential to see through their eyes. It is all about agreeing or disagreeing, good or bad. How do you take from that, and make parts of it your own.

[...]

EV Who else are influential to you?

BJ Another extremely important influence has been Louis Kahn, indirectly and directly. It is interesting because I visited IIMA (the Indian Institute of Management Ahmedabad) before I began studying to be an architect. It was a seminal piece, and it did something to me. I could not explain precisely what it was at that time, but now I have visited the building several times. One of the important things was the sense of weight and grounding, sort of earth-bound. The idea of gravity in those projects – you can feel the sense of weight, but also simultaneously it is not a limitation. It extends beyond this, which is particularly expressed in the work. I am coming to this idea of ruins. Where the buildings oscillate between the past, present, and future. This is something that I have observed very recently – within the last year to year-and-a-half. I am curious to explore the idea of building, where they oscillate between the idea of anticipation and of something that has occurred, might occur, and is occurring now: To position architecture in a space where it can oscillate between these three conditions of time. In a sense you displace time, because it extends beyond the physical limitation of the creator. And so for me, Louis I. Kahn is of extreme importance because I think in many ways he is able to articulate and then achieve this quality of timelessness.

EV In thinking about all these things, we can see that Studio Mumbai is transforming. So that means that there are certain things that we are seeing now, that were maybe not so apparent before. What are you seeing that is interesting for you now?

BJ I think that is an important and a good question. We cannot remain static if evolution and unpredictability remains central to the core of our thinking. As a practice and as a group of people, we have to also move with that idea. Transformation is something that is key. Reconfiguring is imperative to the success of our practice. India's rate of development increases eight to nine percent a year. To be abreast or in parallel, we also need to continuously, through discussion, reconfigure ourselves. For example, the nature or the manner in which we practiced a few years ago, we may not be able to practice in exactly the same way now. We have to make adjustments, and I am going to try to be more specific in what I mean, to better articulate this idea of change and growth. We have traditions that are very much a part of the nature of practice; tradition not in a nostalgic or a physical way, but the methodologies and classic knowledge that are being taken forward. But along with that, come the superstitions. To support this movement, one has to think of other ways to form new bridges. I think part of the practice is to organize a methodology, with the idea of developing in parallel, the practice of an architectural studio that you would see in the rest of the world. We are trying to construct, a mutually integrated practice of architecture as it is produced worldwide along with our method of practice, because the rate of change and communication is something that we are not equipped with yet – we need an armature or framework to support this. Both of these conditions now need to co-exist and support each other. That is something that we will have to bring into the studio. The other is to extend

this beyond the limitations of our physical environment. To make the observation that this craftsmanship or this method of building is available in this country by thousands, so they exist outside the envelope of our studio. How do you tap into that? Today we have the years behind us, and we have fifteen or sixteen people who come from that tradition and are now also equipped with other aspects that reinforce this classic knowledge that they have. Part of the responsibility is to extend it beyond our physical boundary and take advantage of what exists externally. The position of modern development in India far exceeds our strength. The only way to keep abreast or in parallel is by extending this idea and opening it up. It cannot remain exclusive to us. I think that is going to be an important part of how we are able to move towards this, and we have accepted projects on that basis. I did a few experiments earlier on, so that we can calibrate precisely how to work in this way. For example, the Leti project in the Himalayas was a small project with a group of local people working along side our group. It was the combination of the two that enabled us to produce that project. It was a controlled environment, an experiment. Now the question is how do you scale that up? How do you further that idea?

EV It will become a different scale now, and you will have even bigger scales. Maybe you will also have different contexts now.

BJ I think it can. It is fundamentally about communication. It is also through the work that we do; using it as a tool or a method to communicate the potential of the project; to instigate and initiate curiosity on the outside, and engage in the same way as we have been. This process has taken its own time but I think what is critical is to engage it with a certain curiosity; hence it is a device that we will have to make up. The models and mock-ups are a very immediate way for people to connect because they are able to visualize, touch, feel, and respond. Whether it is for the client, the person building the project or myself. It becomes real.

EV So you are saying that communication is essential and crucial to this operation going beyond what you have now.

BJ I think so. What I have experienced and seen outside our practice is that a lot of times our projects are remarked upon for their lack of communication. They become compartmentalized. The contractor versus the architect versus the client... and it is only driven by economics; fair enough, that is also required, but if that becomes the driving force, and there is no empathy towards the work, then it is very difficult.

EV To make selections and an open set of things to unfold and nurture.

BJ Yes, Absolutely.

EV You were building a one-to-one scale mock up so that it was immediate for clients and others involved in the conversation to

understand what you were doing in the project.

BJ Yes, that is right. That decision was taken from several different standpoints. One was that it was very difficult to document a tree – all its branches and its edges, the space between the two trees. It was a shortcut considering the time that it would take to develop a model in the studio given the complexity of the site. We worked out that the most efficient process was to develop a full-scale model mockup. We were able to construct enough within a week's time through physically drawing full-scale on site, and appropriating it in three-dimensions through fabric and wooden frame. In that way we were able to register the spaces between these trees. It became a tool or a means of communication for me and for everybody who was making it, to participate, register and hence have a dialogue. And also for the client, they were then able to experience the potential of what the project would become. It was also done very particularly to draw them into a conversation. It was a tool that in a sense passively ensured that they would interact, because now they could not stand there and be invisible to the physicality of this full-scale mockup. It was an instrument to initiate communication, dialogue, and commitment.

EV Thank you. Lastly, Can you say words of advice to people who are embarking in this world of architecture?

BJ I think modesty is important, a sense of humility, of how, and of curiosity. I think they allow for the imagination to flow or to occur – through that process or gaining of knowledge. It is important to question, and in the questioning, to work rigorously. I think that very fundamental is patience. Be patient. We are living in a world where everything is instant. When one sees that there is a vast amount of patience it gives you an elasticity, which creates this idea of tolerance. It opens up the bandwidth that has the ability to hold infinite space. I think these are key – developing and nurturing this quality – because other things will fall into place naturally. Techniques, skills... all of that is meaningful and can be gained, but this is something that we have to nurture consciously. I think that is what I have tried to do and failed several times. You gain and you fail, and you gain and you fail, but the learning is constant. Once you are out of architecture school, it does not qualify you as an architect – it is just the beginning of a process of learning to be an architect. We are still in the process of learning. You have to continue to read, and to do all the things that you did in school. It is a continuous process. The moment you think you know everything, there is a problem.

Wolfgang Fiel, „Interviews with Staff and Collaborators - Pandurang: Head Mason“

in: Toru Kato, *Studio Mumbai: Praxis*, Tokyo, 2012, S. 51f.

WF Can you tell us a little bit about your background, where you come from and what circumstances brought you to work at Studio Mumbai?

Pandurang (P) I am local to the area where Studio Mumbai's workshop is. It must be between seventeen and eighteen years ago when I first met Bijoy. I was a contractor doing things like building wells, carpentry and masonry. I was more of an all-rounder Coconut trees are very prevalent in this area, and my parents ran a small farm harvesting them. A lot of things are done with the trees here; the wood is used in construction and the fruit is harvested to sell. One day Bijoy offered me a job which allowed me to work in one place instead of traveling around on a bicycle. I was always searching for and traveling to work in this way and it was a little more convenient to have a permanent job and to work for one person. I am now head of the masons here.

WF Given your background and the fact that you have worked for almost eighteen years at Studio Mumbai, how has the work changed, the technology and the way you are doing things?

P I think the change has been positive; when I started here there was nothing on the construction sites. We used to sit under the trees; that was our only workspace. I helped build up the workshop and I know every wall that is here. I also helped in assembling most of the teams that we have today. Previously there were no fixed teams and we would share all of the work across trades. If we needed an electrician for example, it became a little complicated. We would then use contractors or subcontractors. I am happy that the system has developed. We now have a permanent workshop and teams that we can rely on. We no

longer have to count on people who cannot work to the same quality. I am happy that investments have been made in machinery and methodology so that things can be done more efficiently. I think the pace has quickened, and that it is good because it helps us to do more things in the same time span. It is important for me to see this progress. The studio is a big part of my life as my two sons also work in the studio. They are both site managers, looking after construction, so that is also something that is holding me here. It makes me happy that my family also has this opportunity. Although it is only thirty kilometers away from Bombay, Alibag it is still remote compared to other parts of India that are developing more rapidly. It is a good opportunity for my family to earn a living and still remain where they were born and where they had the chance to grow up.

WF We have heard about qualities that are specific to the methodology that is being imparted. Would you be able to single out one specific aspect or feature of your personal work, your craft, which really stands out among other issues or features of the work? Is it quality, is it your involvement in the design process, is it the way that you started communicating with Bijoy and others using drawings?

P IPS - Indian Patent Stone - It is one of the special processes that Bijoy uses at a lot of his sites. It looks like stone, but is not stone. It is a finish that can be seen commonly but we have worked to develop and refine the technique. This is a very traditional process which is at least two hundred years old and I am very proud to be one of the craftsmen who has perfected this art. I am very proud of each piece of floor or wall that I do with this finish and I think it is very beautiful. It is simple and it works, that is the most important thing.

WF Could you tell us more about IPS and the process of refining it or perfecting it? How long does the process take?

P It has to be extremely fine, nearly perfect. What I like about IPS is the seamlessness. When it is done on large areas it feels seamless. Tiles existed before IPS, but with tiles you always have lines, you have grooves and it is very difficult to create a seamless surface. If you do a normal wall you have to paint it, and doing this regularly is more expensive and requires s lot of maintenance. With IPS you just have to clean and wax it every two years. In tiles you succumb to what is available, as with natural stone, but what I love about IPS is the colours. You can have any shade, control what you are doing and make it seamless. The swimming pool is seamless, it covers the whole pool, there are no joints, and that is what I love about it.

Wolfgang Fiel, „Interviews with Staff and Collaborators - Dr. Muirne Kate Dineen: Colour Artist“

in: Toru Kato, *Studio Mumbai: Praxis*, Tokyo, 2012, S. 53ff.

WF Can you tell us a little bit about how you came to work with Studio Mumbai?

Muirne Kate Dineen (KD) I am an artist based in London working with colourand have been coming to India for a long time, about thirty years. I specialize in a particular process that comes from Rajasthan, which I discovered through various trips here. Bijoy and I met about fifteen years ago in London where I was studying at the Royal College of Art. I received a scholarship from India to learn and work with a master craftsman in Rajasthan, learning a process called Araish. This is a Marwari word meaning reflection; it has to do with the quality of the surface produced through this process. After returning to London I was asked to do a studio-based PhD which took about seven years. It was sixty percent practical, and for the other forty percent I had to write about the process. I finished in 1997 and first met Bijoy then. He had read something about me and, entirely separately I think, had been interested in this fresco process. Like me, he had seen this in Rajasthan and had been struck by the beauty of it. It is a very particular process, quite complicated, and only a specific guild or caste of men are able to do this kind of work in India.

WF Is the process still alive the way it has been developed through history?

KD People are aware of the process but much less than before. It was a way

of finishing floor, wall or ceiling surfaces in buildings. When cement and concrete

were introduced, the application and the use of this process declined because concrete was cheap and practical. This technique is very laborious and requires a significant amount of manual labor. It is thought to have started in the twelfth century, although where it came from is slightly ambiguous because borders at that time were flexible. Craftsmen came from Persia and Iran, but there were also craftsmen in the north of India.
The man who taught me has since passed away but I worked with him for about fifteen years. He was very clear that this process came from Rajasthan and that it was developed by the Marwari people. The careful use of resources has always been a consideration here in India. There are large marble quarries in Rajasthan including one called Makrana just outside Jaipur which is very famous for its beautiful white marble and natural lime deposits. The temple carvings and sculptures were mainly produced here, and this guaranteed large amounts of marble dust. This byproduct from the carving is added to lime to make Araish. There are about twenty one layers which are ground in varying proportions, and gradually built up. You start by grinding these layers with a block of wood and by the end you are using a very fine tool made from agate. In the past they would make huge areas, so the manpower and the attention to quality was phenomenal. In Jaipur you can see work that was done three to five hundred years ago. It is astounding. This is what Bijoy had seen and had tried to reproduce. This is also what I saw and fortunately I found a man who was prepared to teach me how to do it. Bijoy and I were thinking along parallel lines. Before we met I had been living in India for three years working continuously for the master craftsman. I then returned to the Royal College and did my Ph.D. which explored reintroducing a traditional process into a contemporary architectural context. I was interested in walls, colour and scale. As no one else in London or England is able to do this, the most I can do at any one time is a small five foot by five foot block with a seam running down the middle. By coming here I was able to practice not only an art form but to do it on a huge scale which would be otherwise impossible. Collaborating with Bijoy, who has the sites, interest and the same passion as me, enables us to do bigger projects. Looking back on our first job together, it was very impractical; essentially a cottage industry of women grinding colour. It took months, but what we ended up with was very beautiful.

WF I am interested in the different aspects of colour, you see a lot of colours here. We just talked about the technique, and at some point it started to become more complex.

KD Colour is why I do this. I used to study textiles and I would dye fabrics. It is important to me that color is integral to the surface. It is not something you apply afterwards. What I do is to build colour; it is a volume and a substance. That is my passion and what is

interesting is that Bijoy is also interested in the idea of monolithic spaces. Becoming a solid block of colour; it appears as if the wall or the house were made as one single piece. We are now working with concrete. It is much less precious than the fresco process, which is incredibly laborious. It was nice to use concrete because it is a cheap and universal material. Everybody knows about it, but if we treat it in the same manner as the fresco process, and with a similar quality of colour then there is a transition and a transformation in what we are doing.

WF Are you in a position to combine concrete and fresco technology in order to achieve something with a similar quality?

KD Not the technologies because the processes are different. The common factor is the quality that Bijoy creates in his buildings, and the quality and passion I have for colour. Putting these together into concrete and making a building material becomes much more feasible. The project we are doing at the moment is enormous and it would not be possible with Araish. It would take years, and the expense would be beyond what is even possible. We are using a cheap material that is not precious but is accessible, and we are

giving it that quality in terms of time, effort and consideration. In that way we work together very well. I have never worked with an architect who has as much empathy for colour as I have. That makes an enormous difference, because it allows you space to work.

WF Is the abbreviation IPS what you use to describe this process?

KD IPS stands for Indian Patent Stone. This is what we have used at Copper House II. It is a trowelled cement plaster and is different from poured concrete. It refers to the cement plaster screed that is trowelled on top of in-situ surfaces, whereas with the other project we are working on, we are pouring the concrete with the colour already mixed in.

With that, the quality of colour that we are trying to achieve is the same as we are trying to do with the Araish process. This is what brought us together, the quality of surface, and the fact that the colour was not on the surface, it was integral. When Bijoy first did it the workmen were not entirely honest because he did not know how to do the process. When you are doing twenty-one layers it is very complicated, so unless you know what you are doing, it becomes difficult to keep track of. For the job we did at Indigo (a restaurant in Mumbai) Bijoy got some men from Rajasthan to come and do the work. The craftsmen were well versed with this process, but had difficulty working with me. I have a set of tools which I was given by the man who taught me. You do not buy these tools off the shelf, you earn them, and when I came - a white woman - I showed that I understood this process that is typically handed down from father to son. The minute I got the tools out, the story changed because they saw that I knew what the tools were for. I said: 'why are you not using this, why are you using this, you need to do it like this.' Suddenly it was a different story. They understood that I knew what was going on, and that I knew how to do it. From that moment on it was fine and in the end it was a beautiful job.

WF This is a process specific to India. Do you think that it is possible to transfer these techniques elsewhere?

KD You need the workforce, resources and the will to achieve quality when doing this process. It is possible that you could find this somewhere else, but it is unlikely. I did not know if I believed in fate, but it seemed particularly strange that Bijoy suddenly appeared on the horizon as I was doing this. I do not know how else I would have been able to do this on such a large scale. This process is very demanding in terms of effort. It is not so much the financial commitment, but the time and effort that is required. My Ph.D. was seven years and I was working with the master craftsman for fourteen years. I would need a whole team of people who were as skilled as me to be able to do this on a grand scale; to do anything of a reasonable size, you need a row of ten or fifteen men and there is only one of me. Fifteen men would have to come and sit with me for eleven years in London and learn how to do this; the likelihood is small. They are here in Rajasthan, and if they want to make the effort to do the work then we can. It takes this combination to make it happen.

WF Can you tell us about the

relationship that you have with Studio Mumbai?

KD I come and go; I am an artist in London. My galleries and my studio are there, so that is where I do commissions. When Bijoy is working on a project that requires anything to do with colour and surface, that is when I get called to work with him. I am a collaborator in that sense, but I would say also that he already has a vision in mind when I come in. For example in Ahmedabad, there was not a discussion about what colour we were going to use in the building. He already knew what color roughly, a type of sandstone, a very beautiful stone that is used in some of the buildings in Ahmedabad. My role

is to refine that. I make samples based on what he has told me and on what I think would work well. I might suggest that we should introduce more tones. We could do this by pouring a series of blocks in order to have a gradation of tone, as natural stone does. We would have to artificially manufacture that gradation, because it does not happen otherwise with concrete.

WF Can you paint a picture of how a project comes about at Studio Mumbai; the methodologies, what is the beginning, what is the end, what does the process entail?

Samuel Barclay (SB) For Bijoy it is an incredibly intuitive process and I think for us as participants in that, a lot of the time is spent figuring out ways and means for us to extract our understanding of it. Through this participation we have to try and develop, by means of conversations, models, and drawings a way to be able to understand the atmosphere and the world that he is trying to build up in a particular project. In every project we do, the site is absolutely critical and through a lot of site visits and meetings with the client, we try to draw things out in order to reveal all of their aspirations, fears, anxieties, even the things that they might want. They have certain images in their head, and we try to draw that out through a process that allows them to participate in the design as well. It is really critical to have a continuous dialogue. Whether it is within the studio itself or with the clients by going to site and just by being in that environment. It begins to be injected into you. We take a lot of measurements ourselves as a way of understanding scale and proportion in relationship with the landscape. It is an incredibly organic process. There are consistencies and inconsistencies. There is a vague methodology, but I think it is a very intuitive process and one in which each

project develops particular to itself. We have done projects that were conceived and built in nine months and then we have projects that were conceived three years ago and still are not built. The process is unique to each one.

WF What is also unique is that the building is being constructed by Studio Mumbai itself. We know it entails the design process and dialogue with the client, but also the making of almost everything that ends up being implemented in the building?

SB Yes, absolutely, all the way down to hinges and handles, and all the way up to the scale of cladding and structure. For me that is part of what is incredibly attractive about being here. In the West, at least where I come from, an architectural drawing has deteriorated to the state where it has

become an explicit set of instructions and a legal document. The contractor is one party, the client is another, and the architect is a third. The relationship between the architect and the contractor is a contentious one because there is money to be made. One person has one set of interests, and the other person has another. This is not to say that contractors are bad, but because of the fundamental construct of this relationship, there is inherently a problem when it comes to facilitating a particular quality of work. The way that Bijoy has avoided that is to build up an infrastructure of human resources. He has collected masons and carpenters and people with a wealth of knowledge. In the process he has eliminated the middleman; the contractor. That is what it takes in this situation, working in India, to achieve the particular quality that we are after. I have a fabulous relationship with most of the carpenters and especially the head carpenter Jeevaram. I go to his house for lunch from time to time, he knows my family and I know his. It is possible for people to have those relationships in the West, but a lot of the time it is a struggle for the architect to achieve what they want to achieve because of the way this relationship is constructed.

WF Do you think that this model could be applied outside of India? It is so specifically tailored to the things you have here. Is this kind of practice unthinkable elsewhere or can it be applied on a more universal scale?

SB There are aspects of it that do transfer. If you look at examples in the West, some architects have contracting licenses, hire their own workers and do design-build work. What I think is not transferable is the realities of material conditions and labor costs. You might find a part that exists in China, but another part of it will not. Equally you might find a part of it that exists in Australia, but then this other part does not exist. This situation is unique to India and what Bijoy has built up. At the same time, the way we are practicing is available to any architect in India and nobody else is taking it on. Nobody else is thinking about working in this way, at least I have not seen any examples of it. I believe that there are ways that one can work in this fashion elsewhere and what I am excited to find out is how we are going to work in this way somewhere else. We have done it at a small scale in London, at the V & A, but we brought people there with us. There will be a time in the studio when we have international projects, it is just a matter of finding the right opportunity.

WF What is also remarkable is the dialogue that takes place. Between local crafts used and applied to build houses, and, on the other side, the architectural language which is somewhat universal. Can you talk a bit about the kind of language that is being developed here? Does it owe to a more international way of educating architects, and to what extent does it owe more to the local vernacular building conditions?

SB I think it tries to take the best out of everything that is available. Bijoy grew up here in Bombay at a very unique time in the city's history, studied in the US, lived in London and had a practice there. Certain habits and things that he has learned along the way play a big part in the way our studio works, but I do not think we are after a particular language. I think we seek an appropriateness, which may have to do with the social circumstances of a particular site, the way that work is done or the way that materials respond to climate. We are not out to save the world in terms of environmental design, but at the same time there is a certain appropriateness in the way in which materials are used. There is an efficiency and ease of means. To completely ignore five thousand years of traditional building knowledge that is sitting right here for anybody to take advantage of, I think is silly. We rely heavily on people to contribute to the design process in a way that allows us to take the appropriateness of the knowledge and experience that they have and combine it with what we, as architects have, in our training, skills and way of thinking. If we were to only take the traditional part and apply that, it would not relate to the client's lifestyle. If we only took the contemporary design aspect of it, it might not work in the environment.

I think what Bijoy is good at is thinking about it in terms of layers. He is able to hold so many layers in his internal space at the same time and then use very acute discretion to make appropriate decisions about where those things are applicable and where they are not. I think just through this slow-cooking process comes something that is not old or new, it is contemporary and appropriate. You can look at very traditional aspects of it, drive down the road and see details that we have used, but I think a lot of time they are used in a way that one might not immediately recognize. That abstraction, or

distillation I think is what we are able to achieve through dialogue.

WF If I could ask you to predict what is on the horizon for Studio Mumbai within the next five or ten years, what do you think will be the most important issues you will take on within this period?

SB I think they are the same issues we deal with now. One thing that I know is that the scale is going to change. It is already beginning to. It is a jump of scale in terms of managing and logistics while still achieving quality in the work. I think there are the things that we do which are universal issues of space and time that architects have always dealt with. We will deal with the same kind of issues, but the methods that we apply and develop may be somewhat more sophisticated, or less sophisticated in some ways. I think the nature of the things that we are dealing with will still be similar if not the same. If you look at somebody like Siza, he has figured out how to distill a project down to its essence and achieve it at a particular scale by radically reducing the complexity of details and the material and color palette. We look at a studio like SANAA in much the same way. How do we achieve that in our practice and take that step in terms of complexity. It is not that the projects will be more complex, in some ways I think they will become simpler, but it is about addressing complexity at a particular scale. I think we will figure out a way to manage. I know the wheels are already turning for Bijoy and I am just trying to run behind and keep up.

The fullness of Light - Louis Kahn in Ahmedabad

in: Gastdozentur Mathias Müller und Daniel Niggli, ETH Zürich, *Indien. Mumbai, Ahmedabad*, Seminarreisereader HS 2010, Zürich 2010, S. 74-81.

The Indian Institute of Management was intended as a centre for training the next generation of Indian business leaders, its methods based on those of the Harvard school of business administration. The project was sponsored by the Sarabhai family of Ahmedabad, who had previously commissioned Le Corbusier to design their own house, the Mill Owners' Association building and the municipal museum. The Sarabhais initially offered the commission for the Institute of Management to Balkrishna Doshi, who had worked with Le Corbusier, but Doshi recommended Kahn and arranged the commission so that the architecture students at the Indian National Institute of Design would have the opportunity to work with him. Doshi became Kahn's associate and collaborator on the project, which would engage Kahn from 1962 until his death in 1974.

Throughout his career Kahn was fascinated with the school as an institution, employing it frequently in lectures to illustrate the need to redefine programmes and reform institutions. Yet he was only rarely commissioned to design a school, and the Indian Institute of Management his without question his greatest educational design. The institute was conceived by its founders as a residential institution where business management was to be taught using the case-study method, based less on formal lectures and more on informal seminar discussions. Kahn believed that this educational model was similar to the manner in which he had long taught his own studio classes, and the fact that students and faculty were both to live and to work on the campus reinforced his consistent preference for the monastic enclave as a starting point for institutional design.

Kahn began his description of his initial concepts for the project: "The plan comes from my feelings of monastery… The unity of the teaching building, dormitories and teachers' houses - each its own nature, yet each near the other - was the problem I gave myself… Orientation to wind and shade from the sun has given architectural elements to the composition … The fullness of light, protected, the fullness of air, so welcome, are always present as the basis for architectural shapes".

Kahn's first overall plan, remarkably maintained through the course of design, addressed both the monastery precedent and the local climate. It placed the classrooms, library, dining hall and faculty offices in the main building - with the dormitories arrayed in diagonal linear structures set along two sides of the main building - and the faculty housing forming an L-shape edge across a lake from the dormitories - all shaded from the sun and ventilated by the prevailing breezes.

The first design for the main building was square in plan, with a cruciform inscribed to produce a central square courtyard and square masses at the corners. Kahn said, "I use the square to begin my solutions because the square is a non-choice, really. In the course of development, I search for the forces that would disprove the square". He soon moved away from the square as the overall exterior form but he invariably returned to it as the plan-form for virtually all of the room-buildings or ‚architectural elements' in

the final composition.

The early schemes proposed a central court space, initially occupied by the library, with diagonal walls running out from its corners. These walls were paired to produce open corners, with narrow passages running from the outer walls to the central court, so as to allow the court to be ventilated by the breezes. While this idea was not carried through to the final design, the great diagonal entry stair now stands in its place.

In 1963 Kahn made two major changes in the design. The first was to remove the library from the middle of the main building, creating instead a large central court ringed by the classrooms, dining hall, faculty offices and library. In this scheme, Kahn proposed that the library be housed in a large square block rotated 45 degrees and set into the courtyard at its east end; and that the dining hall be housed in two rotated square volumes, set within larger hollow square ‚sun shields', together forming the west wall of the courtyard. The second change came when Doshi, during his first visit to Kahn's office, "found it best to flip the whole complex over in the opposite orientation", in order to take better advantage of the prevailing wind patterns. Further modifications that occurred in early 1964 were refinements, the most important being when the student dormitories were changed from linked linear buildings to a series of independent square blocks, set in stepped diagonal sequence so as to produce a ‚chequerboard' grid pattern of alternating square open courts and solid buildings.

Each of these changes resulted in the greater geometric purity of

1901 - 1974

the constituent ‚roombuildings' making up the programme, and their increasing independence through simultaneously being separated and joined by exterior courts and open-air covered passages. While this development is entirely consistent with Kahn's concept of the plan as a society of spaces, as first evolved in his designs for the Salk Institute, it very probably also reflects Kahn's increasing knowledge of ancient Indian architecture and the importance of the openair spaces woven into their plans. During the dozen years Kahn worked on the Institute of Management he made more than 20 trips to Ahmedabad, giving him the opportunity to visit not only modern works, such as Le Corbusier's buildings in Ahmedabad and Chandigarh and Edwin Lutyens's capital at New Delhi, but also the eighteenth-century astronomical observatory at Jaipur and - perhaps most important - the great medieval palace and temple buildings of the Mughal period, including the Royal Fort and Palace at Lahore, the Red Fort at Delhi and the palaces at Fatehpur Sikri. In describing his designs for the Institute of Management, Kahn often referred to his experiences of these old buildings and the way their court spaces promoted ventilation by the breezes.

Having started as a symmetrical, closed block, the main building became progressively more asymmetrical and open as the design developed and this was paralleled by the constituent ‚roombuildings' becoming more geometrically pure and independent. Kahn began by making the central court a double square in plan, and surrounding it with a broad hallway: "The court is the meeting place of the mind, as well as the physical meeting place". Kahn conceived of the central court as the true centre of the institution, where important events would take place: "The inner court will be shielded during certain ceremonies by a large canopy spanning eighty feet. What gave me the courage to do this were the architectural provisions made in the courtyards of the Akbar Palace at Lahore for the same purpose… This court is different from things I have conceived before. It gives such joy to be the one to discover a beautiful way of life that belonged to another civilization".

The design for the seminar rooms was also fixed quite early in the process: a semi-circle of seating set within a square block-like mass, the walls of the interior half-square of which were folded in at 45 degrees to create an entry foyer, shared with the neighbouring classroom. These open-air entry foyers, which overlapped the wide arcaded hall running around the inside edge of the central court, were not conceived of as ‚servant' spaces, for they are equal in size to the classrooms that they serve and are better illuminated and ventilated. Kahn held that in designing a "school as a realm of spaces where it is good to learn … the corridors would be transferred into classrooms belonging to the students themselves by making them much wider and provided with alcoves overlooking the gardens… it would become a meeting connection and not merely a corridor, which means a place of possibilities in self-learning." Kahn believed that learning takes place not only or even primarily in the classroom, but rather in the informal discussions occurring in shadowed foyers, breezeways, arcaded halls, stair landings,

tearooms and courtyards.

Kahn initially conceived of the faculty offices also as ordered in cubic blocks, each with solid outer walls and opening only to a central glasswalled light court, which he called a ‚reverse bay window'. Each of these courts, which appear to have been carved out of the office blocks, was envisaged as cylindrical, touching the northern edge so as to create a single narrow opening from the light court to the exterior of the building.

In the final design Kahn shaped the faculty offices as four rectangular blocks, each on four floors, which alternated with rectangular light courts of the same dimensions, opening to the north, with four levels of arched walkways spanning across the south side. The office windows were placed on the east and west, facing the light courts, with solid walls to the north and south, and a barrel-vaulted roof was proposed over each light court to protect the office windows from direct sunlight and to protect the light court itself from both the torrid sun and torrential rain. These roofs over the light courts, and the tent-like fabric roof over the main courtyard, remained unrealised, substantially reducing the use of these important spaces. The small courts between the classroom blocks to the south (on to which the shared entry foyers open and through which the students enter from their dormitories) and the light courts between the faculty office blocks to the north are opened to the central court through large apertures, allowing the cooling breezes to ventilate the main building.

The majestic entry stair, a free-standing structure set diagonally to the main building mass, starts at a large existing mango tree to the northeast and gradually rises to the main floor level. The arched portal at the top of the stairs gives access to a square open-air entry hall: to the left opens the arcaded porch of the library; to the right is the hallway leading to the faculty office blocks; and directly ahead the central court opens. The library is separated from the court - and shielded from the hot western sunlight - by a porch four storeys high; this is composed of massive brick walls turned 45 degrees to the courtyard wall and pierced by enormous circular openings which are aligned to create ‚tubular volume' above our heads. On the north side of the courtyard, the four levels of hallways of the faculty offices overlook the court. To the south, the three levels of hallways of the classrooms converge upon a massive stair block set out into the courtyard. At the level of the primary seminar rooms, we move into the monumental stair hall from the syncopating rhythm of the hallway through a powerful yet elegant series of layered arches, entering through a single opening, with arches pivoting 45 degrees to form a triangular opening above, the courtyard seen ahead through a double set of arched openings. This stair hall and the library porch are without question among the most astonishing and moving spaces Kahn ever realised, and it is important to note that they are part of the ‚architecture of connections' and not part of the original brief.

The central court, named in Kahn's honour after his death, does not contain its most important element, the amphitheatre, which was to have been covered by a fabric roof during ceremonial oc-

casions and in everyday use would have formed the spatial connection between the library terrace and the floor of the court. Also not realised was Kahn‘s design for the critical fourth wall of the central court, to have been made by the single-storey dining hall- a double square in plan - crossing the court and providing a covered connection between the west ends of the classroom and faculty office wings. Kahn designed the kitchen as a cylindrical domed structure to be placed beyond the western edge of the main building mass, on the central axis of the court, which runs between the two square dining halls. As built to Doshi‘s later designs, the dining hall and kitchen no longer enclose the courtyard, and dining is not among the daily rituals taking place in the courtyard, thus seriously compromising Kahn‘s monastic ideal. The water tower, which was built to Kahn‘s design, rises above the complex to the north west, its verticality balancing the horizontal lines of dormitories to the south east. The dormitory buildings are among Kahn‘s most masterly compositions of pure geometric form. Each dormitory is a cubic block of four storeys with two wings of individual rooms set at right angles to one another, separated by a vertical slot, forming an L-shape on the west and south that creates shadowed common spaces for informal meetings. A square service block is placed on the north-east corner of each dormitory, its corners opened with narrow slots, so that the facades appear to stand free of one another. A diagonal wall, pierced by large circular openings and joined at mid-point to the service tower, forms the outer edge of the triangular common room, with the semi-circular stair at its centre.

All the buildings of the complex were built from brick walls and piers, with concrete floor slabs. While this was not Kahn‘s first use of loadbearing masonry, it did represent an important shift from his typical use of brick as a non-bearing veneer (as in the Yale art gallery and the First Unitarian Church), the prevalent pattern of construction in the United States at the time. For Kahn, the systematic employment of loadbearing brick construction integrated the varyingly scaled buildings of the institute: “You notice I made all these buildings answerable to each other, even though the scale of the house and the dormitory and the school is so different. The material of brick bearing walls and piers with concrete floors is retained throughout, the larger spans giving rise to arches and buttresses, the more modest spaces simple slabs on walls”. While the semi-circular arches, such as those in the arcades under the dormitories, created minimal lateral thrust, the extensively-used ‚flat‘ arches (less than a semicircle) required lateral bracing and so Kahn employed either the ends of the concrete floor slabs or free-spanning concrete beams to create tension ties. As he said, “this is a brick and concrete order. It is a composite order in which the brick and the concrete are acting together”.

Kahn employed this ingenious device to give appropriate scale and expression to each element of the project. The faculty housing employs brick party walls with concrete floor slabs spanning between. At the dormitories, a wider range of scales is created by the various types of arch: from the expression of the individual

bedroom, each with its balcony, arched end wall and concrete slab tension tie (similar to the faculty housing); to the solid sidewalls, where the floor slabs are again exposed, revealing the relieving arches (originating in Roman construction) carrying the load to the outer buttressed walls; and to the monumental scale of the unbraced semi-circular arches at the ground and circular arches at the tearooms.

Finally, in the main building, Kahn creates the widest possible range of scales with the brick arches and concrete tie beams, beginning with the simple, repetitive, rectangular grid pattern making up the east and west walls of the faculty office blocks. In the courtyard, the rectangular openings in the surrounding hall clearly express the four similar office floors and the three dramatically differing classroom floors, while the angled porch of the library is opened with a series of full-circle brick arches, without concrete ties. In explaining these circular arches, Kahn said: "I made these large openings because there are earthquake conditions, and actually the arch below is just as important as the arch above. You have a gravity force, but you also have a (seismic force the opposite way, requiring) the reversed arch. Because Leonardo in his sketchbook says, "In the remedy for earthquakes you reverse the arches". I found this book, I must say, after I thought of this, but nevertheless it was very heart-warming to see this wonderful page".

As was typical of Kahn's design process, there was another inspiration for this full-circle arch, one far closer to his beloved ancient Romans. Among the more famous of Piranesi's etchings of the ruins of ancient Rome is the section of the Ponte Fabrizio, cutting through the bridge and its foundations, and revealing that the semi-circular arch exposed above the water was completed below ground, forming a full circle masonry arch.

This article is an edited extract from Louis I Kahn by Robert McCarter (Phaidon Press 2003)

India is hurtling through the invisible envelope that separates a ‚developing' from a ‚developed' country. Since Independence fifty years ago, the rapid expansion of India's middle class has created an unrivalled level of Media attention. Balkrishna V Doshi's career spans this turbulent period of national growth and change. He is one of the most visionary leaders of a generation who have been searching for a continuous strand in the long history of Indian architecture, as well as a valid means of contemporary interpretation. The official sanctioning of modern architecture by Prime Minister Nehru as the approved national style and symbol of a fresh start after Independence has been a defining factor in Doshi's work. His early association with two of the most influential ‚form-givers' in modern architecture, Le Corbusier and Louis Kahn, has made an indelible impression on him and provides the key to a substantial understanding of his approach.

There has been a surprising lack of commentary on Doshi, with only one dedicated study in what amounts to an extended article by William Curtis prior to this analysis. Many commentators other than Curtis identify three distinct stages in his work, beginning with modernist influence in the 1960s and early 1970S, through a search for indigenous Indian models until the mid-1980s, evolving into the current phase of almost primal, mystic studies related to early Buddhist, Hindu and Islamic models and a complete exclusion of Western influences. Doshi himself has rejected this tripartite staging because he has continually attempted a synthesis, not rejection of Western influences with his own culture.

An attempt to bring this architect's work into register with that of others in the developing world, such as Hassan Fathy in Egypt or Rasem Badran of Jordan, for example, who are often superficially characterized as intractable opponents of the International Style and the homogenization of culture that it is seen to represent, must take this critical difference of synthesis into account. William Curtis has come closer to the mark by recognizing ‚the strength and relevance of the import' as well as ‚the resilience and cultural depth of the recipient', which makes India a particularly interesting case study in this debate. The modern models contributed by such important architects as Le Corbusier and Kahn have been of such a high calibre that they have established an enduring framework or ‚filter' for everything that has followed it. Balkrishna Doshi has done nothing less than refine and perpetuate the central principles of modern architecture as they relate to the history, climate and diverse cultural mixture of India. Rather than presenting the neat, tripartite evolution from Corbusian rationalism toward proto-Gandhian mysticism, as some would characterize his increasingly complex oeuvre, Doshi's work has consistently revolved around notions of the interrelationship of indoor and outdoor space, an appropriate and honest approach to materials, proper climatic response and the observance of hierarchy and or-

der that have always been present in the best modern architecture and conspicuously absent in poor imitations. It is the ‚filter' that Curtis has identified that makes Doshi's interpretations so valuable, since it may offer a more realistic guide for the future in both India and other countries that have experienced a similar path of development. That filter is intricate, since it contains so many closely woven historical, religious and social strands, which make up one of the richest cultures in the world, and its intricacy makes it difficult to analyse.

In speaking of internal and external integration of space, Doshi mentions the need to ‚express a cosmic relationship' and insists that aesthetic considerations in design include ‚local symbolism and associations'. His most recent work is replete with mythological and visionary allusions reminiscent of the rich story-telling tradition in India; most notable are the tortoises and cobras in the Husain-Doshi Gufa and the crystalline ‚caves' in the Bombay Diamond Bourse now under construction. The free-form plan of the Gufa, whose radical departure from carefully ordered structures of the past has surprised so many of Doshi's followers, also raises the issue of expressionism, or what Colin St John Wilson has called ‚the hidden agenda of modernism', and resuscitates the earlier modernist debate about mechanization versus craft. Today India shares perhaps only with Morocco the combination of craft skills and decorative traditions that allows the exploration of integrating ornament and structure. The mosaic of broken china pieces covering the Gufa shells is a reminder of the possibilities that such exploration still holds.

Doshi's work is a compelling mixture of the modern and the traditional, containing the most fundamental aspects of each, without being deflected by superficial forms. For those who feel that the most significant cycle of Modernism has just begun, as well as for those attempting to interpret tradition in a meaningful way, Balkrishna Doshi presents a consistent approach.

That consistency is manifest through his ability to structure synthesis rather than hoping it will happen by accident, with equal parts of the equation from East and West, if those designations still have any meaning in a world in which the distance from an epicentre at Greenwich is increasingly meaningless. Doshi's own culture is so rich and venerable that it is extremely difficult to isolate individual points as being of relative importance in his mental source book, but there are consistent clues. Having settled in Ahmedabad in 1955, Doshi has assimilated regional Gujarati culture. His office in Ahmedabad has compiled a list of ‚must see' buildings with locations indicated on a map to help interested visitors navigate around the city. The implication behind the list is that these are the sites in the city that Doshi admires most and that seeing them will assist in understanding his work.

Located at the western crux of the continent, Gujarat is a mushroom-shaped region with an extensive coastline on the Arabian Sea and two deep, fjord-like gulfs that cut into it at the northwest and southeast. Its strategic location, for maritime trade to Iraq, Iran, the Arabian Peninsula, east African coastal cities such as

Zanzibar and Lamu, and to Asian countries such as Burma, and for inland trade to northern India, has historically assured prosperity in the region and it is no coincidence that Gujaratis have a reputation as pragmatic and Cosmopolitan businessmen. They are fiercely loyal to their region and yet worldly: the necessity to survive through trade has given them a uniquely double view.

Doshi has personally conducted extensive research into the various residential typologies in Gujarat in a variety of mercantile communities, such as the Bohras.[1] He has traced this group from the port city of Khambat to more than a dozen other cities in Gujarat, as their numbers and prosperity increased, identifying their own neighbourhoods, or Bohravads, in each case. Significantly, he has found that these have either developed organically or have been laid out in a grid iron pattern which Doshi attributes to their exposure to Western influence. Their wealth has also allowed the Bohras to use elaborate ornament on their houses, which in some cases copies the decor of the British with whom they traded.[2]

Doshi's interest in the evolution of vernacular residential typologies has not been confined to the Bohravads, however, but extends to other old residential precincts, or pals, in Ahmedabad. Located inside the medieval circuit of the city, more than 350 of these socially identifiable units are typified by densely packed clusters of row houses. These are of the Gujarati type, with a large central court beneath a covered skylight, surrounded by balconies leading to the bedrooms above, a living/reception area on axis with the front door beyond the court, and with a swing-seat suspended by chains as a prominent piece of furniture in this room. The ornamentation on the facades of the traditional Gujarati houses in the pals of Ahmedabad is not duplicated on the interior. The external ornamentation, characterized by jharakas or projecting balconies, intricately carved facades and brackets, acts like an extended mashrabiya, the carved latticework wooden window typically found on vernacular houses throughout the Middle East, providing privacy from the outside world. The interior of the Gujarati house, on the other hand, is far more visually accessible to visitors.

The Vastu-Shilpa Foundation for Studies and Research in Environmental Design, established by Doshi to research the vernacular residential architecture of the region, is currently surveying the entire medieval area of Ahmedabad, and each of the pals in turn, not only to provide a resource for the office in their urban planning commissions, but as a public service and invaluable historical document as well. This effort is intended to inform the design process and is clearly traceable in it. Yet Doshi is not an exceptional case as an architect singlemindedly attempting a synthesis between two cultures. His individual architectural agenda is symptomatic of the same kind of foreign and local synthesis that cosmopolitan Gujaratis themselves have been practising for centuries. He describes the predicament of having to look back at traditions almost hypnotized by the past and without any clear view of the present or hint about the future'. He considers his focus on the past to be an attempt to examine what is tangible and close to him:

that is, the rich collection of historical monuments that are at the same time real, comfortable and predictable.

Buildings by Le Corbusier and Kahn constitute the modern Western component of these monuments on the Vastu-Shilpa list of places of architectural interest in Ahmedabad. They include the Sarabhai and Shodan houses, the Sanskar Kendra museum and the Mill Owner's Association Building (all by Le Corbusier) and the Indian Institute of Management (by Kahn). The rich coexistence of modern milestones in Ahmedabad, which were both influenced by Doshi and have been a continual source of theoretical nourishment for him, is an overwhelming reminder of the diversity and singular magnitude of his background. No other living architect in India has had the breadth of experience he has had, and yet Doshi views that experience as both a blessing and a curse: ‚even though I learned from great masters, I was nevertheless educated outside myself. This is why I have tried to become a son of the soil, to go back and see what it's really like to cast off the skin as a snake would and become again.'[3]

Sources that are less recognizable to the Western eye, such as the mosque and tomb complex of Sarkhej, the Jami Mosque of Ahmedabad, the Masjid-e-Nagira in the town centre, the Hatheesingh Jain Temple opposite the Darwaja, and the Adalaj and Dada Hari step wells, have a particularly strong resonance for him as important resources in his own region. Built as a mosque and tomb complex in 1457 for Ahmedshah Khattu and Queen Raja, the Sarkhej group is spatially intricate, with a vast interior courtyard and rectangular artificial lake, which served as a summer pavilion for the king arid queen and which is also the burial place of a revered Muslim saint, spiritual guide to Sultan Ahmed I. In spite of its remote location, eight kilometres from Ahmedabad, Sarkhej is filled with people all day long who treat it as a communal meeting place and home away from home. It is especially popular at sunset when families and young lovers go there to enjoy the cool of the evening. Obviously the same cannot be said for Le Corbusier's Mill Owner's Association Building (on which Doshi worked), which is usually virtually deserted at any time of day. The contrast in popularity cannot have been lost on Doshi in his considerations. The Ahmed Shah, or Jami (Friday) Mosque complex of 1424, near the centre of Ahmedabad, has a vibrancy that is similar to Sarkhej, conveying the feeling that it is a city within a city, a self-sufficient entity in which one would be quite happy to live indefinitely. On any given day the Jami mosque is crowded with visitors, buying from the food and clothing vendors lining the axial avenue leading up to it; sitting at the open-air counters surrounding cooking stoves set up on the stairs and platforms adjoining them; or walking, sitting in groups, and sleeping inside the arcade surrounding the courtyard in front of the n1.osque, which is the coolest place to be in the complex, if not in the city itself. Some can be found in the mosque at prayer. This is the kind of activity and vitality which every architect dreams of encouraging in a design. If anything, the crush of people at the Friday Mosque can become oppressive.

There are constructive parallels that Doshi has transcribed, inten-

tionally or subliminally, from these examples. The most obvious are structural clarity, hierarchy and amplification. The first two of these concepts were articles of faith for both Le Corbusier and Louis Kahn, enabling Le Corbusier to break the tyranny of the bearing wall (as in his ‚five points') and as the almost mystical regard for the column and the notion of order described by Kahn. A structural overview of Doshi's work reveals that he uses the bearing wall to great effect principally because it makes more sense as a source of thermal mass in such a hot country. But in those instances in which piers or columns are integrated into the bearing-wall system, such as at the Indian Institute of Management at Bangalore (1977-85), the Gandhi Labour Institute in Ahmedabad (1980- 84), the Madhya Pradesh Electricity Board in Jabalpur (1979-89), and the Bharat Diamond Bourse in Mumbai (1998), it demonstrates the extent to which this component has become a mediator between Modernism and tradition.

Structural amplification is a method by which a construction expands like a fugue in a vertical direction. In the remarkable historical example of the Adalaj step well, stairs are masterfully woven between the increasing rows of columns in descent to the water source. Doshi keeps on view at Sangath a beautiful bound survey of a stepped tank at Modhera, which is even more intricate than Adalaj, and such amplification is volumetrically legible in many of his projects, such as the Gujarat State Fertilizers Corporation in Baroda (1964-69), the Electronics Corporation of India in Hyderabad (1968-71) and the Life Insurance Corporation in Ahmedabad (1973-76). In each of these there is not only a visible order, but the same kind of spatial refraction found at Adalaj, in which inner volume seems to expand exponentially.

Doshi has categorized eight principles in traditional architecture which he believes would greatly enrich contemporary practice. Moving beyond historic al examples in his own region, he first cites the ‚mythical sense' of space often evident in traditional architecture which is not simply confined to open or closed areas. Doshi attributes what he describes as ‚the Hindu ability to transfer by ritual substitution', or to transform. the function of a space by ritual use, as the reason for the cosmic dimension behind much of their architecture. Space can be ‚modified according to the desire of the perceiver' and is never static.[4]

The kind of vibrancy found at Sarkhej and the Ahmedabad Jami Mosque is also characteristic of Hindu temples, and the transfer of energy that takes place between the walls, columns and spaces of the temple and the worshippers passing through them., either alone or in groups, has led Doshi to infer a second principle of ‚transformation' between a building and the people that transcends functional use. More accurately described as a ‚dialogue ,, this transfer underscores the important position that people occupy in Doshi's architecture, a surprisingly rare concept among those promoting various theories today. Heralded as a return to populism after the elitist excesses of the International Style, postmodernist approaches eventually deteriorated into a similar kind of insularity, as original intentions were forgotten. Robert Ventu-

ri, an early postmodernist, clearly blamed architects‘ fundamental tendency to distrust the public and preference for talking to each other through their work, as was made plain in both the later phase of modernism and theoretical reaction to it.[5]

With the demise of the only formulated theory since the turn of the century that deliberately sought to embrace populism, the prospects for an architecture that would respond to people, rather than the nihilistic alternative of deconstructivism, became even bleaker. Deconstructivists proposed the deliberate antithesis of the human ‚subject‘, who was ‚decentred‘ by the interrogation of social institutions that it instigated, but this central agenda was not well understood by many practitioners and students, who copied the style just to be fashionable. Oblivious to such superficial pressure, Doshi has persisted in his deep belief in the validity and importance of ‚human institutions‘, just as Louis Kahn did before him. This belief, which we may take as a third principle, is amplified by his own deep cultural experience and the popular evolution of new institutions. The ‚dialogue‘ Doshi has experienced, which runs counter to the theoretical ‚decentring‘ to which postmodern philosophers subscribe, also ‚gives direction to the community at large‘, resulting in ‚built forms which generate holistic experiences which finally become institutions‘.6 Much of Dos hi‘s work is best understood as a continuation of this reaffirmation of belief in institutions, of recognizing, strengthening and creating them. It is no coincidence that many of his projects throughout his career have the word ‚institute‘ in their title, such as the Institute of Indology, the Indian Institute of Management and the Gandhi Labour Institute. His architecture assumes a collective will and, like a self-fulfilling prophecy, creates one through its physical presence.

The name of his office itself, the Vastu-Shilpa Foundation, is a ringing affirmation of Dos hi‘s faith in the dialogue between people and architecture of which he speaks and the power of the dialogue to perpetuate old institutions and create new ones. The vastu-shilpa system is an oral tradition of passing down knowledge about building from generation to generation; it now co-exists with professional practice in the same way as feng-shui (spirit influences relating to one‘s living area) throughout Asia, although at a much more tectonic level. The design of a Hindu temple, for example, is always based on an ancient treatise called the Shilparatua, which is metaphysical as well as scientific and mathematical. It also includes astronomy and magic. It allows for vernacular and regional variations because these have also been transmitted through an oral tradition that is easily adaptable.

A fourth, more specific principle is to follow a ‚flexible rather than rigid approach to structure ‚. This is how a transformation of space from a mere static container to a place in which people actually feel a psychic interchange is best achieved. The Adalaj step well provides one example of this in the amplification of a trabeated structure, but Doshi refers n1.ore particularly to ‚multiple, mixed structural systems‘, of the type found at the Madurai temple, or in the Mughal city of Fatehpur Sikri, which also ranks high on Doshi‘s list of favourite historical sources. Madurai, which

is a series of complexes on slightly varying axes inside a walled enclosure, is a more compact example of the architect‘s idea of structure as a ‚live instrument‘ that activates various layers of functional needs. In each of the multitude of enclosures and temples of various sizes crammed inside the Madurai circuit wall, space is modulated in a different way, from densely forested hypostyle hall to large rectangular inner court surrounded by a bearing-wall perimeter.

This notion of flexibility leads naturally to Doshi‘s fifth principle, of incorporating symbolism. He believes that such nuances can only be accommodated by a mixture of structural systems. Symbolically charged space must be designed as a receptacle for human activity, able to serve as a backdrop for each of the rituals, or important behaviour settings of life and take its essence from the incremental interactions that take place in it. There is a parallel h ere with Aldo Rossi‘s concept of a perpetuating permanence, or with a building such as the Basilica in Vicenza, which endures not because of stylistic hegemony, but because it has been able to accommodate a variety of uses over a long period of time in a dignified way.

To accommodate such nuances, as a sixth principle, Doshi also advocates amorphous, rather than finite forms used with multiple structured systems so that ‚experience within them may be loose, meandering and multiple‘ . The massing that results from the mixture of trabeated and bearing-wall systems as described earlier at Madurai Temple, is one compelling model for such forms, as is the great temple at Tanjore, in which surfaces are ‚dematerialized‘ by ornamentation. Doshi ‚s awareness that such detailing was intentionally left incomplete as an expression of the futility of seeking perfection has shaped hi s attitude to design as an ongoing process that is never finished. Layering is another technique, in addition to ornamental detailing, that is frequently found in vernacular architecture to achieve the amorphous quality that Doshi describes; he has adopted it to great effect as a means of adding richness to even the lowest-budget project, such as the Life Insurance Corporation Project in Ahmedabad or the Aranya Low-Cost Housing Project at Indore.

The structural and formal systems that he has adopted h ere have led Doshi to assimilate a seventh principle of the Vastu Purusha Mandala to ensure minimum standards of health and hygiene in each project. Vastu (environment), purusha (energy) and mandala (astrology) are combined in a diagram that has evolved to assist builders in determining proper orientation. North relates to the Lord of Wealth, south to the Lord of Death, east to the Lord of Light (the rising sun) and west to the Lord of the Wind. The centre is attributed to the Lord of the Cosmos. Following this chart has generally indicated a southwest orientation, favouring the prevailing breeze and also has defined the use of a central courtyard.

As an eighth and final principle, Doshi seeks timelessness in his architecture much as Louis Kahn did when describing this quality in historical precedents as ‚open-endedness‘. Foresight h as allowed his work to withstand changes. His earliest projects have

withstood use well, allowing them to remain as durable examples for a new generation of Indian architects, who look to him as an example.

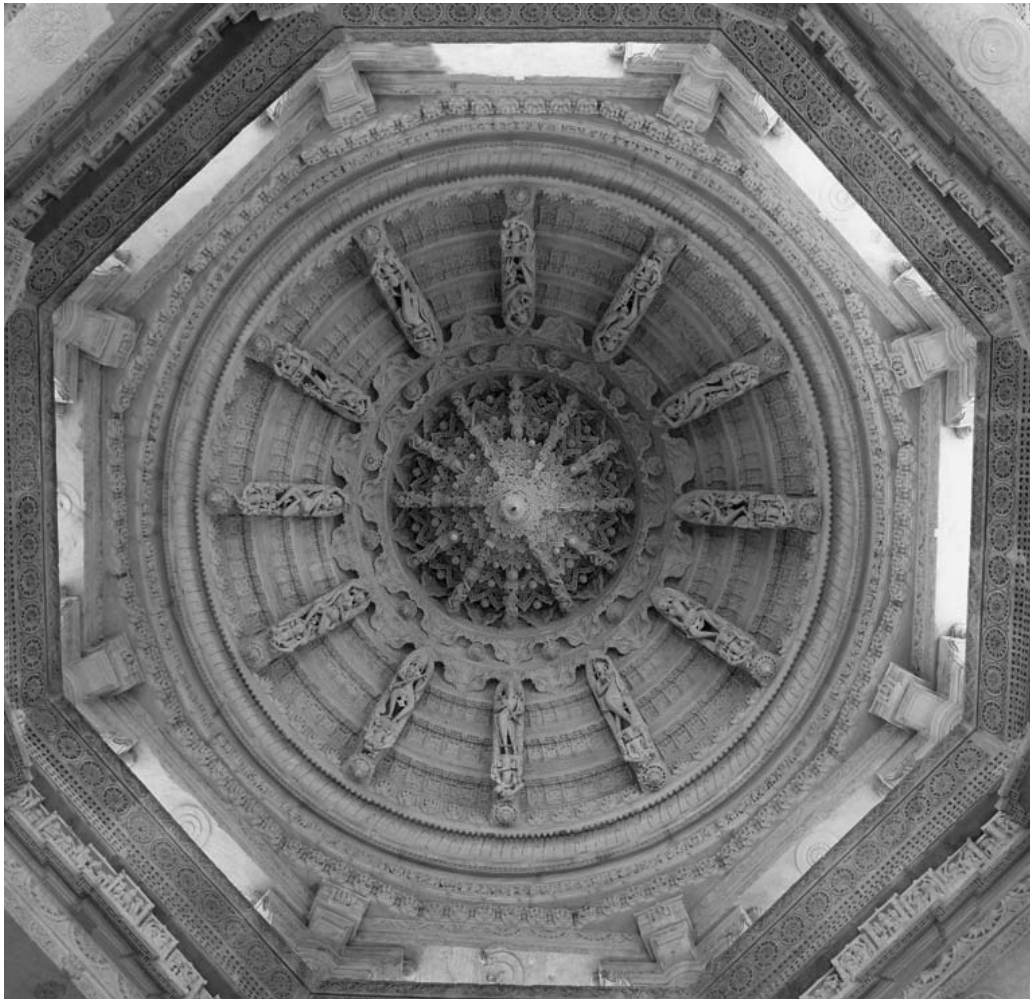
NÜTZLICHE WÖRTER - ARCHITEKTUR

agasiflat	**portion of a roof**
arabesque	**stylized foliation with stalks and leaves**
arcuate	**arched mode of construction**
aro	**bathing ghat**
baithak	**reception room**
baoli	**step-well**
blindarch	**arch-like recess, not an opening**
burj	**fort**
caravanserai	**structure for travellers**
chamfered	**with the corners cut off**
char-bagh	**garden design with four squares**
chhatri	**small domed pavilion with pillars**
chowk	**courtyard of a house; name of a market street**
chunam	**lime plaster**
clearstory	**upper part of a multistoried space to admit light**
coffered	**flat ceiling divided into square or diamond-shaped patterns**
corbel	**an outward projection**
corbelled	**dome created by projecting successive rings of horizontal stone courses**
darwaza	**gateway**
four-centred	**arch with double-curves on each side**
garbhagriha	**temple sanctuary**
ghat	**bathing place**
hamam	**bath-house**
harem	**female quarters of a palace**
haveli	**large house or mansion**
hypostyle	**composed of columns only**
iwan	**monumental portal**
jali	**pierced screen**
jamb	**side portion of a doorway**

Jami‘ Masjid	**Friday Mosque, principal place of worship for a Muslim community**
kakshasan	**sloping back rest, usually in a porch**
kalasha	**pot-like motif**
kumbhi	**stone pillar base**
linga	**phallic emblem of the god Shiva**
lintel	**beam over an opening**
mandapa	**columned hall in a temple**
mihrab	**niche in the wall of a prayer chamber indicating the direction of Mecca**
minaret	**slender tower from which the call to prayer is given**
oriel window	**window carried on a projecting balcony**
otla	**front verandah of a house**
parapet	**wall rising above the roof**
parasal	**room opening off a chowk**
pendentive	**corner element supporting a dome**
pishtaq	**monumental portal**
pol	**urban residential unit with a single street**
pseudo-minaret	**non-functional minaret**
Pura	**city quarter or neighborhood**
qaisariya	**market**
qanati	**temporary mosque created with screen walls**
qibla	**rear wall of prayer chamber containing one mihrabs**
rauza	**enclosure containing atomband usually mosque**
roof cornice	**bottom roof line**
rotunda	**domed chamber**
sarai	**enclosed area with facilities for travellers**
sayyid	**lineal descendant of the Prophet Muhammad**
shaikh/shaykh	**Muslim holy man or saint**
squinch	**arch-like corner element supporting a dome**
stilted dome	**elevated on straight sides**

stringcourse	**horizontal decorative feature on a wall**
stucco	**polished plaster**
tah-khana	**polished plaster**
talav	**reservoir or tank**
tanka	**underground cistern**
tirtha	**sacred place or shrine**
torana	**gateway consisting of two pillars supporting a sinuous arch-like element**
trabeate	**pillar and lintel mode of construction**
tympanum	**upper interior of an arch umro, threshold of house**
zan ana	**female quarters of a palace**
Zoroastrianism	**religion of the Parsis**

Bild: Gewölbe eines Jain-Tempels



NÜTZLICHE WÖRTER - ESSEN

Allgemein:

cheeni	**Zucker**
chai	**Tee mit Milch und Gewürzen aufgekocht**
dahi	**Joghurt**
dudh	**Milch**
garam	**scharf**
gosht	**Fleisch, meist Hammel**
khaana	**Essen**
mirch	**Pfeffer**
mirchi	**scharfe Chilischote**
murgi	**Huhn**
namak	**Salz**
paan	**In Betelnussblatt eingewickelte Paste aus Betelnuss, Limone und Gewürzen. Kau-Digestif nach Essen**
pani	**Wasser**
sabji	**jedes Gemüse-Curry**

Gemüse:

alu	**Kartoffeln**
bhindi	**Okraschoten**
chana	**Kichererbsen**
dhal	**Linsen**
gobi	**Blumenkohl**
mattar	**Erbsen**
paneer	**indischer Käse**
sabzi	**„Grünzeug"; wird für jede Art von Gemüse gebraucht**
tamatar	**Tomate**

Gerichte und Zubereitungsarten:

aloo gobi	**Kartoffeln mit Blumenkohl**
bhindi bhaji	**gebratene Okraschoten; mild gewürzt**
bhuna	**gebratenes, anschließend angedicktes Curry; mittelscharf**
biriyani	**Reis mit Safran oder Kurkuma, ganzen Gewürzen, Fleisch**
Bombay duck	**getrockneter, südasiatischer Wels**
chop	**Hackfleisch oder klein gehacktes Gemüse, paniert mit Kartoffelbrei**
cutlet	**Hacksteak - oft Hackfleisch oder klein gehacktes Gemüse**
dhal gosht	**mit Linsen gekochtes Fleisch; scharf**
dum	**in einer Kasserole gedämpft; das am weitesten verbreitete Gericht**
jalfrezi	**mit Tomaten und grünen Chilis; mittelscharf**
jeera	**Kreuzkümmel; eine so bezeichnete masala ist meist mittelscharf**
kofta	**Gemüse- oder Hackfleischbällchen in einer Currysoße**
korma	**Fleisch, geschmort in einer Joghurtsoße, mild**
malai kofta	**Gemüsekebabs (Lotuswurzelbällchen) in einer Sahnesoße; eher mild**
mulligatawny	**Gemüsesuppe mit Curry; mittelscharf**
pomfret	**ein in Mumbai und Kolkata beliebter Plattfisch**
pulau	**auch als pilaf oder pullao bekannt, Reis, sanft gewürzt und vorgebacken**
rogan josh	**Lamm-Curry, ein klassisches Mughlai-Gericht; mittelscharf**
sizzler	**Fleisch, Fisch oder Gemüse, serviert auf Metalltellern in heißem Öl**
subje	**weißes Kokosnuss-Chutney, wird oft zusammen mit vadas serviert**
vindaloo	**goanisches Fleisch- (mit Essig gewürzt), manchmal auch Fisch-Curry; sehr scharf**

Brote und Pfannkuchen:

chapati	**ungesäuertes Brot aus Vollkornmehl**
dosa	**Reispfannkuchen (sollte knusprig sein), heißt mit Füllung masala dosa, ansonsten sada dosa**
iddli	**gedämpfter Reiskuchen, gewöhnlich mit sambar serviert**
papad/poppadum	**knuspriges, dünnes, rundes Knäckebrot aus Kichererbsenmehl**
paratha oder parantha	**Vollkornbrot, zubereitet mit Butter, zu dünnen Scheiben gerollt und auf dem Blech gebraten; manchmal auch mit Fleisch oder Gemüse gefüllt.**
puri	**knuspriges, frittiertes Vollkornbrot**
roti	**schwammiger Begriff; oft lediglich ein anderer Name für chapati obgleich es dicker und zäher sein und im tandoor gebacken werden sollte.**

Bild: Gewürzvielfalt Indien

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ASSISTENZ GIGON GUYER
Oktober 2018

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Martin Feichtner
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Mit Mike Guyer