

Recycling
Steel is almost
100% recyclable and
maintains its physical
properties

High Strength, Low Weight

Regular carbon steel	400 MPa	60,000 psi
High Strength steel	760 MPa	110,000 psi
Stainless steel	890 MPa	129,000 psi
Steel Prestressing strands	1,800 MPa	260,000 psi

Wrought iron: 234-372 MPa 34,000-54,000 psi
Cast iron w/ 4.5% carbon: 200 MPa 29,000 psi
Timber (pine): 40 MPa 5,800 psi
Wool: 15 MPa 2,200 psi

PROPERTIES

Resistance to corrosion
Unlike iron, steel does not corrode easily, on being exposed to moisture and water. The dimensional stability of steel is a desired property, and is found that steel remains unchanged even after many years, or after being subjected to extreme environmental conditions.

INITIAL APPLICATIONS
PROTECTION



AGRICULTURE



BRIDGES & BUILDINGS



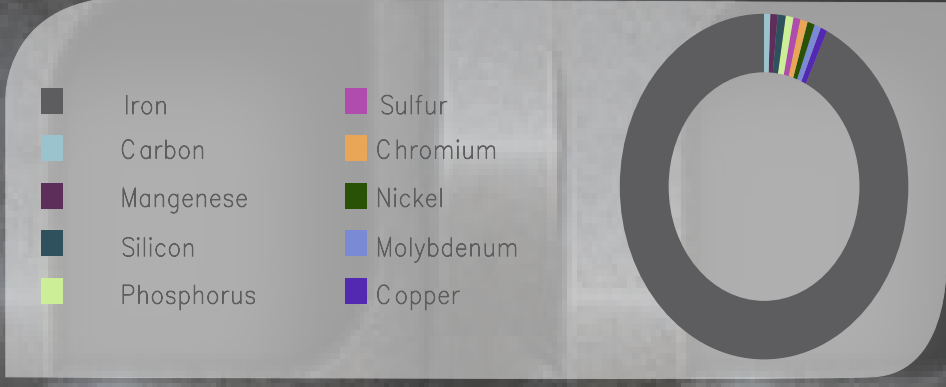
WEAPONRY



TRANSPORTATION



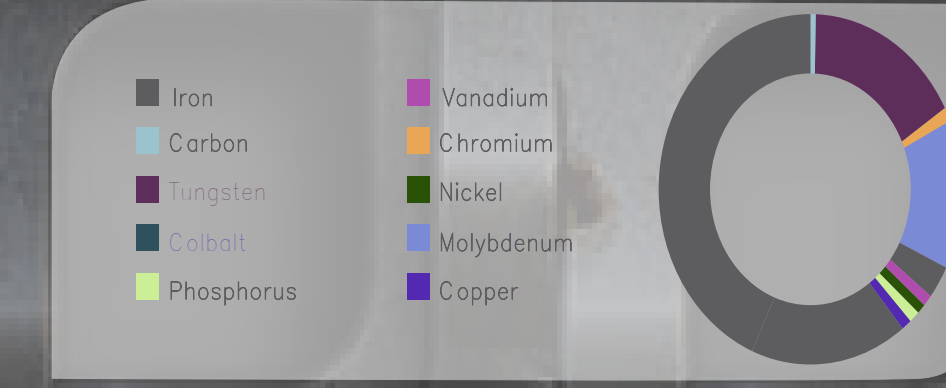
CARBON STEEL



ALLOY STEEL



TOOL STEEL



HUMAN APPLICATIONS

STAINLESS STEEL IN THE HOME

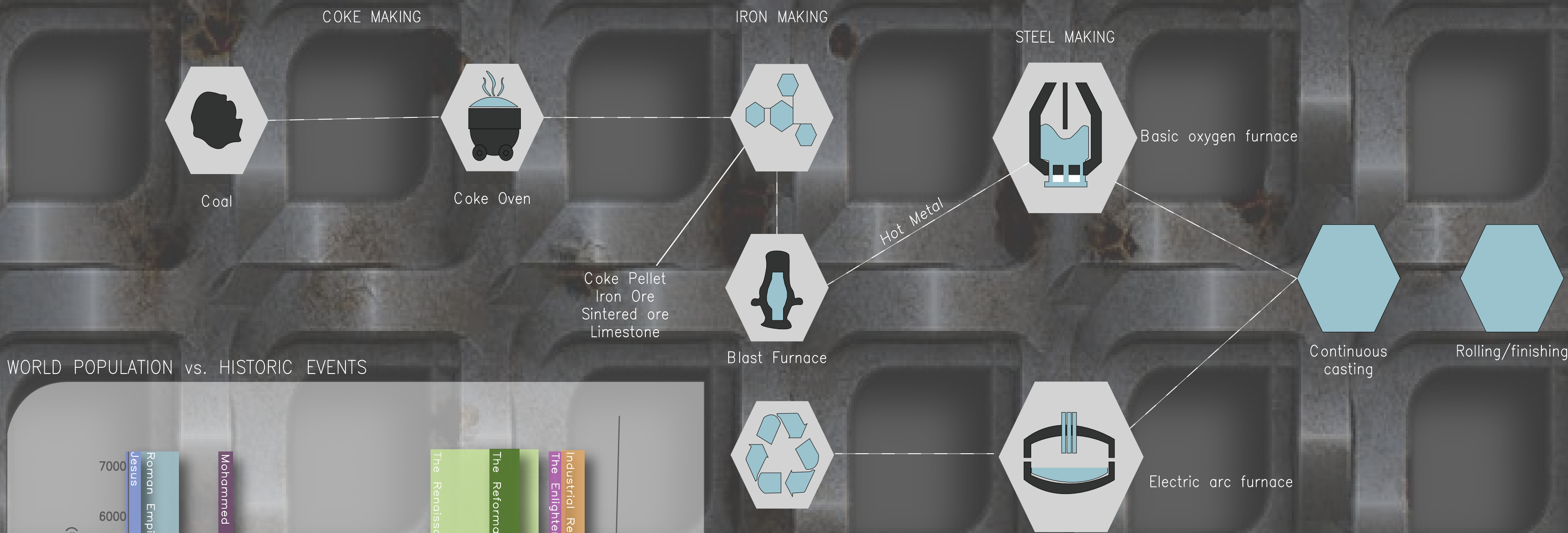


SO COMMON IT'S FORGOTTEN:
THE UNAWARE REALITY OF STEEL IN HUMAN EXPERIENCE AND ENVIRONMENT

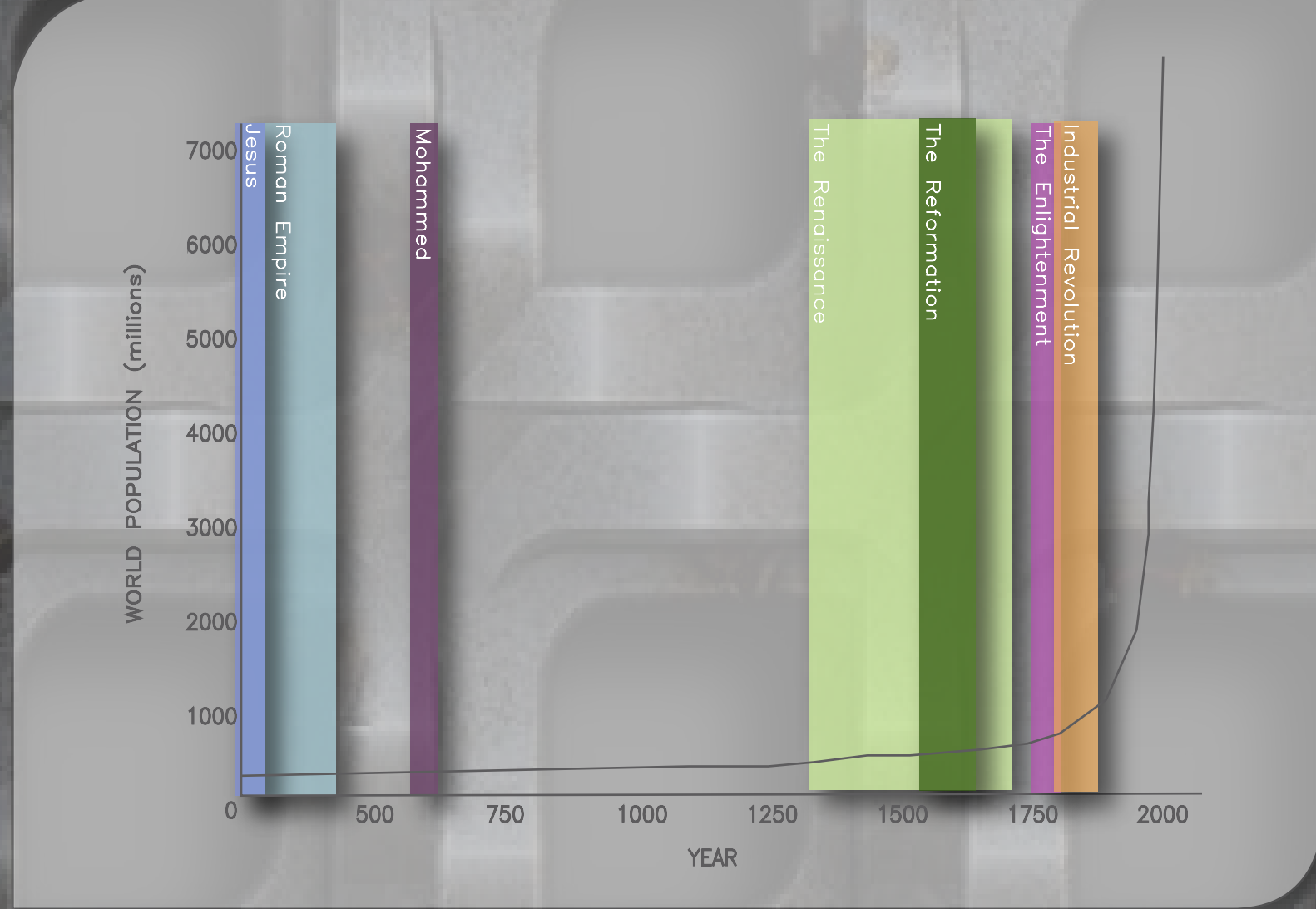
Rachel Woods
College of Architecture and Design
Professor Ziad Qureshi

PROJECT STATEMENT

Steel is the most revolutionary technological advancement in history. Why is it so easily taken for granted despite the broad cultural, economic, and personal impact it has had throughout time? Its impact has included created advancements forms of transportation, agriculture, buildings, bridges, warfare, and consumer products. This research include an investigation into change over time, processes and types of alloys, and the application of steel in human environments like the household kitchen. This project investigates steel's influence from the urban scale to the human scale, with the goal increasing awareness in public and demonstrating a technology that has shaped our past and is necessary for the future. The design outcome of this research is a space that demonstrates and increases the awareness of steel's contribution to our lives.



WORLD POPULATION vs. HISTORIC EVENTS



GLOBAL COMPARISON

CITY	NUMBER OF HIGH RISES	POPULATION (2016)	POPULATION DENSITY (ppl./sq. km)
Hong Kong, CHN	7,974	7,246,000	6,608
New York City, NY	5,924	8,500,000	10,892
Sao Paulo, BRA	5,667	12,365,000	7,914
Singapore	4,368	5,624,000	7,697
Moscow, RUS	3,273	16,170,000	4,859
Seoul, KOR	2,877	23,480,000	17,134
Tehran, IRN	2,804	13,532,000	18,083
Tokyo, JPN	2,702	37,843,000	6,168
Rio de Janeiro, BRA	2,564	11,727,000	5,414
Istanbul, TUR	2,148	13,287,000	2,593
Toronto, CAN	1,868	6,456,000	4,149
St. Petersburg, RUS	1,770	5,126,000	3,708
Buenos Aires, ARG	1,709	14,122,000	15,046
Kiev, UKR	1,531	2,910,000	515
London, GBR	1,478	10,236,000	5,431
Osaka, JPN	1,463	17,444,000	11,894
Mexico City, MEX	1,364	20,063,000	5,974
Mumbai, IND	1,223	17,712,000	20,680
Madrid, ESP	1,127	6,171,000	5,294
Chicago, IL	1,125	9,156,000	11,868
Caracas, VEN	1,109	2,100,000	35
Bangkok, THA	1,106	14,998,000	5,279
Recife, BRA	1,103	3,347,000	8,050
Santiago, CHL	1,096	6,225,000	8,595
Shanghai, CHN	990	23,416,000	3,826

PERSONAL CARE



HAIR PRODUCTS



ACCESSORIES

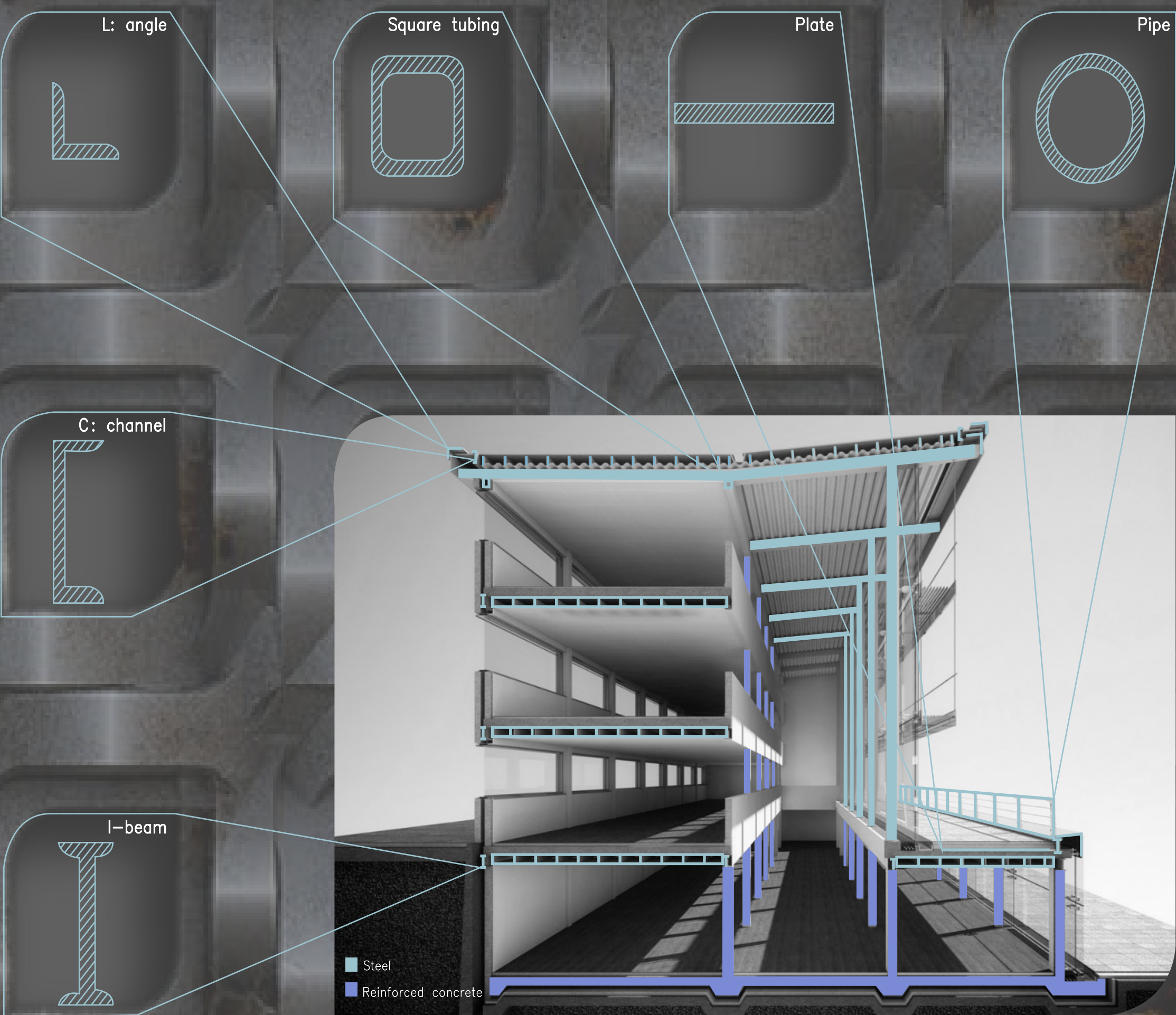


TOOLS



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HONG KONG 1800s



HONG KONG TODAY