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THE SYNCHRONOUS CITY

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I. Abstract:

Architects’ conceptualizations of cities reference and reflect trends in their societies at their time of conception. During the early 1900’s architects speculated on modernist visions of cities, during the mid-late 1900’s radical visions of cities emerged, and now, this project will operate among the framework of previous visions of cities by architects and envision a city based on digital information and communications technologies. We are living a Digital Revolution and exist in the age of Information. This thesis will explore the ways in which a city will be conceptualized if it was based on digital information and communication technologies (ICTs) as the primary means of exchange and interaction among the citizens, with the use of third-generation mobile as the key interface between the physical and digital realms. Hypothetical cities are designed for the citizens and are of significance to the general public, not exclusively for the trained architect; they are usually published and sell ideas and ideals of a better society, a better way of living, and most importantly a change of the existing urban principles. As a result, architecture and experiments in representation collide in order to reference popular culture, engage and interact with it.
Pre-Digital Revolution:
the street as the main platform for interaction

Present:
social media platforms as the main platform for interaction
II. Introduction:

We are living a Digital Revolution in which all aspects of city life are changing. Perceptions of time and space are blurred almost to the point of eradication and new forms of interaction and transportation\(^1\) are emerging. Digital information and communication technologies (ICT) and the third-generation mobile\(^2\) are facilitating universal interactions via the World Wide Web and are giving new meaning to urban concepts such as streets, community, place, and space while concurrently adding ubiquitous virtual layers to the built environment.

Historically, architects have conceptualized cities by reacting to emerging trends in technologies and transportation methods of a given moment in time and that are representative of a specific era and country. From the late 1890’s up until the 1970’s architects focused on conceptualizing hypothetical cities (some being highly radical and speculative while others realistic and predecessors of suburbs) that respond to major cultural and technological shifts: Le Corbusier conceptualized a City for Three Million Inhabitants in which aerial transportation served as the central node of the city; Frank Lloyd Wright designed an agrarian city based on the single family dwelling and private transportation; Archigram speculated on a city as a transformative machine with pluggable components; and Yona Friedman contemplated the possibility of a floating city.

Now, with the emergence of the digital information and communication technologies, and the new modes of exchange that arise with them, we should reintegrate the utopian vision to architecture of our century and eradicate the dystopian vision on ICT’s and the city.

Ithiel De Sola Pool discusses in his essay “The Structure of Cities” how in the late nineteenth century the telephone had started to displace the telegraph as the main means of electronic interpersonal and inter-business communication. Telephones allowed consumption at a distance and the dispersal and suburbanization of US cities began. Neighborhoods and districts no longer needed to be specific to a field or in close physical proximity in order to be more efficient and the skyscraper emerges. A similar phenomenon is now emerging with the digital information and communications technologies. The developing telecommunication technologies have prompted new asynchronous and synchronous communication methodologies\(^3\) that impact the ways in we interact not only as individual but also as a collective community environment.

ICTs have become tools for transportation and we are engaging in a society where “without necessarily leaving, everything ‘arrives’\(^4\). While 40% or the World’s population\(^5\) is connected to the web, 86.75% of the United States\(^6\) has accessible internet connection. Statistics show that about 1.91 billion people around the World currently use third-generation mobile; it is projected that that number will reach 2.56 by 2018\(^7\). Comparatively, 64% of the United States’ total

\(^1\) transportation: “the act of changing place” (OED)
\(^2\) Third-generation mobile
population uses third generation mobile\(^8\), and there are projections of third-generation mobile usage increasing to 79.7% by 2017\(^9\). With advances in technology, specifically the internet, boundaries and perceptions in the city are challenged. The World Wide Web has become an extension of the physical domain; it is a virtual realm where geographical, cultural, and social perceptions are dissolved. Our virtual presence is becoming increasingly more relevant than our physical one. In the past, people went to the streets to voice their opinions, now we turn to social media; we post, share, tweet, re-tweet, and “go viral.” Could it be that social media platforms are the “streets” of the twenty-first century? How can we bridge the digital and physical to define the city of the XXI Century?

Movement is a key concept imbedded in both the physical and digital aspects of today’s cities. There is an inherent correlation between digital information and communication technologies and transportation infrastructure: essentially they both are accountable for “the act of changing place” or, in other terms, “moving.” Digital information and communication technologies have the ability to transport people without physically engaging in the action of moving. It is a misconception that because ICT’s facilitate “place-less” interactions such as teleconferencing and telecommuting, all physical forms of social interactions will end. In reality, the total vehicle miles traveled in the United States has continued to increase for decades, growing two and a half times as fast as he nation’s population between 1936 and 2001 (Handy 2003)\(^10\). ICT’s will not replace physical interactions because it is a carbon-based life form’s necessity to move and engage in physical contact with others similar to us; however ICT’s are adapting and restructuring the ways in which we engage in these interactions. ICT’s are the engines of today’s society and economy and we are growing increasingly dependent on them and they are changing infrastructure, sociability, and economy.

Cities have always adapted and been redesigned and designed bearing in mind the prominent transportation and communication technologies distinctive of an era such as vessels, automobiles, airplanes, telegraphs, telephones, and now the third-generation mobile. Digital information and communications technologies are combining the act of moving and the act of communicating and are becoming the primary mode of “transportation” and interaction between urban dwellers. It is my belief that we should reintegrate the utopian vision of a digital information and communication technology-based community and conceptualize a city centered on this contemporary phenomenon. This thesis aims to conceptualize a city founded on digital information and communications technologies (ICTs) as the primary means of exchange and interaction between people while considering the third-generation mobile is a key interface through which urban dweller shapes the ways in which we use and interact with the built environment.

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\(^9\) statistica.com

\(^10\) Handy
III. Theories and Theorists

1961: Jane Jacobs
“The Death and Life of Great American Cities”

1964: Melvyn Webber
“The Urban Place and the Non-Place Urban Realm”

1970

1980: Manuel Castells
“Space of Flows, Space of Places: Materials for a Theory of Urbanism in the Information Age”

1976: Ithiel de Sola Pool
“The Structure of Cities”

1985

1990

1995

1999: William Mitchell
“The City of Bits Hypothesis”

2002: Paul Virilio
“The Overexposed City”

2004: Timo Kopomaa
“Speaking Mobile: Intensified Everyday Life, Condensed City”

2010

2014: Martijn de Waal
“The City as Interface: How Digital Media Are Changing the City”
IV. Timeline:

- 1769: Invention of the first self-propelled road vehicle
- 1783: Invention of the air balloon
- 1787: Invention of the steamboat
- 1790: Invention of the modern bicycle
- 1792: Invention of the semaphore
- 1805: Invention of the typewriter
- 1824: Invention of the steam locomotive
- 1838: Invention of the telegraph
- 1862: Invention of the gasoline engine
- 1867: Invention of the automobile
- 1876: Invention of the telephone
- 1886: Invention of the radio
- 1895: Wright brothers invent and fly the first powered airplane
- 1908: Henry Ford improves assembly line for automobile manufacturing
- 1922: Washington Naval Treaty is signed
- 1926: First liquid-propelled rocket launched
- 1927: Invention of the television
- 1943: Invention of the modern helicopter
- 1954: First computer operating system
- 1961: First human on the moon
- 1963: Introduction of the microchip
- 1966: Invention of the first transistorized computer
- 1968: Introduction of the personal computer
- 1974: Invention of the laser printer
- 1975: Invention of the floppy disk
- 1982: Invention of the personal computer
- 1985: Invention of the compact disc
- 1993: Invention of the World Wide Web
- 2000s: Invention of mobile 3G networks
- 2003: Invention of the Internet

- 1908: Gordon City | Craven Howard
- 1909: Citi Industrial Co. | Tony Gomier
- 1910: Ford Motor Company
- 1911: Mitsubishi Shipyard
- 1912: Le Creuset
- 1913: Philadelphia Museum of Art
- 1914: Boardwalk City | Frank Lloyd Wright
- 1915: US | More people live in suburbs than on farms
- 1916: WAC Spotsky | Yona Friedman
- 1917: New Babylon | Constant Nieuwenhuys
- 1918: Pisa City | Achille Gaviglio
- 1920: Delphi Psycho | The Great Village
- 1922: Parisia Shaked | Castor Price
- 1924: No Stop City | Achille Gaviglio
- 1926: Monumental Castoro | Superstudio
- 1927: Christopher Alexander | A Pattern Language

1924-1930: The Great Depression

- 1938: United Kingdom: Robert Cecil (Conservative) becomes Prime Minister
- 1940: France: Cesar Vives (Socialist) becomes Prime Minister
- 1952: United States: Dwight D. Eisenhower (Republican) becomes President
- 1956: United States: Frank B. Kellogg (Republican) becomes President
- 1973: United States: Richard Nixon (Republican) becomes President
- 1979: United States: Jimmy Carter (Democrat) becomes President
- 1985: France: Guy Mollet (Socialist) becomes Prime Minister
- 1993: Netherlands: Wilhelmina van Oranje Nassau (People's Party) becomes Prime Minister
- 1986-1989: Italy: Berlusconi
- 1992: United States: Bill Clinton (Democrat) becomes President
- 1995: United States: George W. Bush (Republican) becomes President
- 2003: United States: George W. Bush (Republican) becomes President
- 2008: United States: Barack Obama (Democrat) becomes President
- 2014: United States: Donald Trump (Republican) becomes President

- 2014: Tycoon Lobo | Laban Architecture
- 2015: Mirch de Wolf | The City as Interface

- 1984 United Kingdom: Robert Cecil (Conservative) becomes Prime Minister
- 1940 France: Cesar Vives (Socialist) becomes Prime Minister
- 1952 United States: Dwight D. Eisenhower (Republican) becomes President
- 1973 United States: Richard Nixon (Republican) becomes President
- 1979 United States: Jimmy Carter (Democrat) becomes President
- 1985 United States: George W. Bush (Republican) becomes President
- 1993 Netherlands: Wilhelmina van Oranje Nassau (People's Party) becomes Prime Minister
- 1984 United Kingdom: Conservative Government and Labour Government
- 1986-1989 Italy: Berlusconi
- 1992 United States: Bill Clinton (Democrat) becomes President
- 2003 United States: George W. Bush (Republican) becomes President
- 2008 United States: Barack Obama (Democrat) becomes President
- 2014 United States: Donald Trump (Republican) becomes President

- 2014: Tycoon Lobo | Laban Architecture
- 2015: Mirch de Wolf | The City as Interface
V. What sparked my interest:

It was a summer morning in the city of New York when after a pre-work run left me “stranded” on the streets. As I made my way back home I noticed that I had forgotten my keys, I look at my iPhone to check the time and realize that my roommate should be about to leave for work. In a moment of panic, I call her to see if she is still home: she doesn’t pick up. I send her an iMessage and wait...

I begin to picture the worst case scenario: she is below ground on the subway with no cell reception and with no way to respond to my messages...

With my smartphone [and earphones] as my only means, I realize: there is no need to panic. With this device, I could simply request an Uber to my roommate’s workplace and wait for her to get out of the black hole that is the NY subway system. By then she would have responded to my messages, set up a meeting point, make the exchange and I would be on my way back home on another Uber with her set of keys while conveniently doing my grocery shopping using the Fresh Direct App. Another scenario is: I take an Uber to work and showed up in my gym clothes and even though I didn’t have my wallet, I could still order lunch through Seamless or Grubhub.

...My iPhone vibrates to a message from my roommate “Still home, wait for you here” and, at that, all “crisis” is averted.
VI. Research Questions:

How would a city be conceptualized if it was based on ICTs as the primary means of exchange and interaction (as opposed to cars, pedestrians, ships, etc.)?

a. What are some examples of visions of cities by architects?
b. What programs are challenged/could benefit from this issue?
c. How has the use of communication technologies (letters, telegraphs, telephones, etc.) impacted the ways in which we use and interact with the built environment?
d. How are public/private relationships challenged by the use of third generation mobile? (In a way, “the use of a mobile phone implies the privatization of public spaces” (Kopomaa, 270).

e. How are elements of the built environment defined in the virtual domain?
f. How could ICTs enhance the ways in which we use and interact with the built environment?
g. How would the architectural representation of an ICT-based society reference the trends of contemporary society?
   i. What is the role of architectural representation in historical case studies?
   ii. What are the techniques employed by the architects to represent their architectural ideas? (plans, sections, perspectives, axons, models)
   iii. Which mode/s of representation relates to ICTs the best? Why?
   iv. How does the use of color, people, landmarks, photography, film, etc. influence our understanding of the projects?
VII. Hypothesis:

In order to best engage the provocations of a city based on digital information and communication technologies (ICTs) as the primary means of exchange and interaction (as opposed to cars, pedestrians, ships, etc.), I propose to explore the use of third generation mobile technologies to enable and define the build environment. Drawing from my research, I believe that this city will need to be decentralized, controlled by its citizens, composed of both kinetic and static elements, will redefine notions of public/private, and will be part of a larger network of cities that extend through vast landscapes connecting ICT based societies.

I will begin by conceptualizing shifts in urban terms between the physical and digital realms, and then implementing these shifts in terms to the design of the city using the third generation mobile as interface between the physical and digital domains, and by speculating on parallel representational techniques that could relate to an ICT based society (for example: GIF as architecture drawing, projection on drawings and models, incorporating microcontrollers with physical models (ex. Arduino), and interactive programming).
VIII. Case Studies:

The importance of these case studies is grounded on the idea that “imagining a more equitable and sustainable future involves an implicit critique of the spatial and societal conditions produced by prevailing urban logics.”\(^1\) The following visions of cities by architects will be studied not for of their socio-political and historic propositions but rather for their provocative representation techniques and their success in communicating the architect's visions. These architectural provocations challenged normative thinking of the time in which they were conceived and their representation techniques were game-changing agents used to explore and express those new assumptions of urban life. Not inventing any new practices, architects took from other fields existing representational techniques such as collage, perspective, and photography and employed them in the field of architecture.

CITY

1890's-1930's
MODERNIST VISIONS
speculative projects that could be developed with existing technologies and that have directly influenced the ways in which we conceived cities and the built environment

1950's-1970's
RADICAL VISIONS
highly speculative projects that could have not been developed with the technologies of the time in which they were conceived

2015-present
A NEW VISION

The Garden City
Citté Industrielle
Contemporary City for Three Million Inhabitants
Broadacre City

Ville Spatiale
New Babylon
Plug-In City
Potteries Thinkbelt
No Stop City
Monumento Continuo

The Synchronous City
Project: Garden City
Architect: Ebenezer Howard
Date: 1898

Notes: Ebenezer Howard developed the Garden City model as a way of dealing with over-population and decentralization in English towns. The Garden City would be a new community of manageable size, in which urban and rural worlds would be brought together in happy synthesis (Curtis 161). The Garden City was intended to be like the English village but with railways and small scale industry. Six satellite cities are connected to the Central City by three different transportation systems: canals, railways, and underground transportation. The Garden City model is conceptualized as a “slumless and smokeless” city surrounded by countryside.

Key Concepts: a central city connected to satellite towns surrounded by greenery and connected by three different transportation systems: canals, railways, and underground transport; reconnecting with nature
Project: Citté Industrielle

Architect: Tony Garnier

Date: 1901-1917

Notes: Tony Garnier conceptualizes the Citté Industrielle as a city programmatically segregated where industry and home are distinct. The two primary districts are linked by railways at trade centers, and a large sanitary establishment is incorporated into the master plan as a separate element. Ebenezer Howard’s Garden City principles are taken and transformed in order to create a city in which, according to Garnier “the land and the city, taken overall, is like a big park, without any fences, to delimit the various sections.”

Key Concepts: programmatic separation of industry and home connected by a railway system; cleaning the environment and reconnecting with nature
Project: Contemporary City for Three Million Inhabitants

Architect: Le Corbusier

Date: 1922

Notes: Like Garnier, Le Corbusier was content with nothing less than a total theorem for an industrial society. The Contemporary City for Three Million Inhabitants’ oversimplified plan has a regular geometry cut across by a main axis of road circulation. All roads lead to a transportation center on multiple levels, the topmost being an airplane landing strip. Twenty-five glass skyscrapers, 600 ft high are positioned surrounding the central transportation core and are reserved for theocrats, managers, and bankers, highlighting a distinction between the managerial élite and the lower orders. The city is conceptualized on the principles of a high density and maximizing open space by incorporating steel and concrete construction and lifting all buildings up on *pilotis*. The distinction between the mechanized traffic and pedestrian traffic (on the greenery) is made clear by the use of *pilotis*. The traditional street is demolished and the city becomes in essence a vast park.

Key Concepts: the city as a park; central transportation hub on different levels; no streets; central élite
Project: Broadacre City

Architect: Frank Lloyd Wright

Date: 1936

Notes: Frank Lloyd Wright conceptualized Broadacre City as “an ideal state with individual liberty in a mechanized society.” It is argued to “not really be a ‘city’” (Curtis 210) but rather a decentralized community. In this strategy, the individual family home (usonian houses) is the basic unit and central bond of the community, and the only tall buildings are miles apart, separated by the countryside. The usonian houses were located within the Midwestern Grid in sites of one or more acres. Frank Lloyd Wright argued that the telephone and automobile were making the centralized city obsolete and that the city should evolve to become “a society of free individuals living in a rural democracy” (Curtis 210). In an attempt to reintegrate man and nature, Frank Lloyd Wright also incorporated co-operative markets, theaters, and community centers to stimulate community and social interactions.

Key Concepts: reintegrate man and nature; single family dwellings; countryside; private transport
Notes: Constant conceptualized New Babylon for the “playful man” (Homo Ludens) as its central element and as a “city” which would facilitate a nomadic life. This stems from his belief that the man of the future will be free from physical labor and could be devoted to playing and creativity. With the mechanization of society, Constant believed that eventually every aspect of the city will be controlled by machines, thus liberating the human from the ties of work and society. The project reacted to the current technological developments at the time of its conception such as mechanized farming. Constant was inspired by Yona Firedman’s Ville Spatiale, especially the concept of a mobile architecture however he translated these to megastructures. Constant did not see New Babylon as a city but rather as a “design of a new culture” which could stretch through the landscapes of a country and not limit itself to the confines of a city. In New Babylon, every inhabitant is able to adjust light, sound, temperature or atmosphere, creating an ambiance that is distinct from the natural phenomenon on the exterior.

Key Concepts: emancipation; playfulness; mechanization of society
Project: Ville Spatiale
Architect: Yona Friedman
Date: 1959

Notes: Yona Friedman explored the concept of mobile architecture in his conceptualization of the Ville Spatiale, an elevated city space where people could live and work in housing of their own design. The Ville Spatiale was thought out as a method to enable the growth of cities while limiting the use of land. The Garden City principles are evident in that it aimed to preserve the natural land and maximize the uses of the land. Friedman designed “methods of choice” for future inhabitants of the Ville Spatiale, therefore the modular system seemed adequate. “He opened a wide field of discussion on the fundamental right to self expression of individuals, on the inclination to build more and more, and on ways to be self sufficient in a modern society. These topics implicated subjects as the role of the state, the role of capitalism in urbanism, the use for architects and the matter of respect for the natural environment” (http://www.yonafriedman.nl/?page_id=78).

Key Concepts: modular; city in the air; city as a machine; vertical expansion of a city
Project: Plug-In City
Architect: Archigram
Date: 1960-1974

Notes: Archigram conceptualizes Plug-In City as a “pods and capsules plugged flexibly into a frame.” In this model for a city, there are no buildings in the traditional sense, rather “frameworks” into which standardized components could be slotted. Archigram welcomed the hedonistic possibilities of modern consumerism rather than opposing and reacting to them. Archigram took from Sant’ Elia’s descriptions of future cities as a dynamic machines, and designed Plug-In City as just that, an ever-changing machine where the only fixed elements are the framework in which the elements are plugged in to. The intersecting tubes that make up the frame are used half for service and the other half as escalators.

Key Concepts: the city as a machine; modularity; transformation
Project: Potteries Thinkbelt
Architect: Cedric Price
Date: 1966

Notes: Though it is not a design for a "city" but rather for a university campus, Cedric Price’s Potteries Thinkbelt project uses infrastructure from a city, an existing railway system to design a non-architectural source of knowledge. Standardized modules are moved up and down the region to service different parts of it with "information" but without cities.

Key Concepts: non- architectural; moveable; modular; the "city" as a machine
Notes: Archizoom conceptualizes No-stop City as an "instrument of emancipation." Branzi explains: "The idea of an inexpensive, catatonic architecture, outcome of the expansive forms of logic of the system and its class antagonists, was the only form of modern architecture of interest to us... A society freed from its own alienation, emancipated from the rhetorical forms of humanitarian socialism and rhetorical progressivism: an architecture which took a fearless look at the logic of grey, atheistic and de-dramatized industrialism, where mass production produced infinite urban decors." No Stop City therefore frees us and allows us to be anyone anywhere.

Key Concepts: an instrument of emancipation; infinite; autonomous city
Notes: For Superstudio, the moral struggle for "deeper values" of the modern movement was put aside, and culture was reduced to a sort of consumer pluralism delighting in technology (Curtis 348). Monumento Continuo is conceptualized as a "thin glass viaduct of total monotony" that traverses different locations around the globe. The style of the structure recalls the stripped, Classical buildings of the Fascist period and the images were meant to critique the cluttered world of modern materialism. Though it is not a city *per se*, Superstudio's concept of a "continuous monument" can be understood as model for a "global city."

Key Concepts: infinite; modular; invasive; autonomous
IX. Case Studies 2.0

Garden City 2.0

Ville Spatiale 2.0

Cittè Industrielle 2.0

Plug-In City 2.0

City for Three Million Inhabitants 2.0

Potteries Thinkbelt 2.0

Broadacre City 2.0

No Stop City 2.0

New Babylon 2.0

Monumento Continuo 2.0
X. ICTs in the built environment

Ithiel De Sola Pool discusses in his essay “The Structure of Cities” how in the late nineteenth century the telephone had started to displace the telegraph as the main means of electronic interpersonal and inter-business communication, today, a similar phenomenon is occurring with digital information and communication technologies (ICTs). Telephones allowed consumption at a distance and the dispersal and suburbanization of US cities began. Neighborhoods and districts no longer needed to be specific to a field or in close physical proximity in order to be more efficient and the skyscraper emerges. A similar phenomenon is now emerging with the digital information and communications technologies (ICTs). The developing telecommunication technologies have prompted new asynchronous and synchronous communication methodologies that impact the ways in which we interact not only as individuals but also at the urban scale.
XI. Implications of ICTs:

1. Create new forms of communication
2. Mobile applications interface between the built and digital domains at an urban scale
3. Challenge public/private relationships
4. Redefine urban terms

XII. Types of connectivity/communication (according to William Mitchell):

1. Synchronous: in real time
   - Synchronous Presence: face-to-face
   - Synchronous Telepresence: talk by telephone

2. Asynchronous: with a delay between the sending and receiving of a message
   - Asynchronous Presence: leave note on desk
   - Asynchronous Telepresence: send e-mail or leave voice mail
XIII. Applications:

These mobile phone applications were collected because of their urban qualities. These applications redefine and challenge urban traits and generate new forms of interaction at the urban scale. They have been categorized according to William Mitchell’s types of connectivity and communication (synchronous and asynchronous) in order to create a distinction between the varying implications of each type of application.

- Digital acts that lead to asynchronous physical acts:
  - Uber
  - Lyft
  - FreshDirect
  - Instacart
  - Amazon
  - Ebay
  - Grubhub
  - Seamless
  - Tinder
  - OkCupid
  - Bank Specific Apps i.e. Chase

- Digital acts that lead to synchronous physical acts:
  - Companion

- Digital acts that lead to asynchronous digital acts:
  - Facebook
  - Instagram
  - Twitter
  - Snapchat
  - LinkedIn
  - Vine
  - YouTube
  - WhatsApp
  - Facebook Messanger
  - Flickr
  - Foursquare
  - Venmo

- Digital acts that lead to synchronous digital acts:
  - Skype
  - FaceTime
  - Snapchat
  - WhatsApp
  - Facebook Messanger
Applications: Digital acts that lead to **asynchronous digital** acts:

A person in a public setting messaging someone in a distant location through the use of mobile applications such as WhatsApp and/or Facebook Messenger.

A person in a public setting receiving a message from someone in a distant location through the use of mobile applications such as WhatsApp and/or Facebook Messenger but not reading the message instantaneously, rather with a delay.

Applications: Digital acts that lead to **asynchronous physical** acts:

A person in a public setting ordering groceries/goods from an online retailer such as FreshDirect that will be delivered later during the day or the next day.

A person physically receiving their order from the retailer hours later.
Applications: Digital acts that lead to **synchronous digital** acts:

- A person video chatting with someone at a different location, in real time.
- A person video chatting with someone at a different location, and engaging in different physical activities as the other caller, all in real time.

Applications: Digital acts that lead to **synchronous physical** acts:

- A person physically present in one location and virtually "physically" present in a different location through the use of the mobile application Companion.
- A person seemingly alone is being accompanied by a friend virtually and in real time through the mobile application Companion.
Kopomaa argues that the mobile phone is a “third place” distinct from the private (home) and public (workplace in the city). The author claims that “the use of the mobile phone implies a privatization of public space”\(^\text{1}\) and that it is both substitutive and supplementary.

PUBLIC/PRIVATE
CLAIMING THE DIGITAL DOMAIN

PHYSICAL PUBLIC SPACE
more than meets the eye, public space redefined by ICTs

DIGITAL IN PHYSICAL
accessing applications through
third generation mobile

PUBLIC SPACE
mediated through third generation mobile

DIGITAL NETWORKS
uber: interfacing between physical and digital
venues: accessing digital through physical operations

XV. Components of a City in Physical and Digital Terms:

- **Protocols**\(^{14}\):
  
  Internet Protocol *n.* a standard that specifies the format and addressing scheme of packets of data sent over the Internet or similar networks; abbreviated *IP*.
  
  **Example:** an individual computer
  
  **Equivalent:** the individual, the user

- **Platforms**\(^{15}\):
  
  Platform *Computing*. A standard system architecture; a (type of) machine and/or operating system, regarded as the base on which software applications are run.
  
  **Example:** social media platforms
  
  **Equivalent:** representations of space\(^{16}\) (space that is conceived)

- **Networks**\(^{17}\):
  
  Network *Computing*. A system of interconnected computers. Freq. attrb.*local area network*, *wide area network*: see the first element.
  
  **Example:** a series of platforms and their user-generated content
  
  **Equivalent:** representational space\(^{18}\) (space that is lived)

- **Applications**\(^{19}\):
  
  Application *Computing*. A function performed by a computer to meet a specific user requirement; (now usually) a program or piece of software designed to perform such a function (as distinct from software which supports the operating system itself).
  
  **Example:** list of applications being referenced
  
  **Equivalent:** the user interfacing the built environment and challenging urban conditions

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• **Devices**^{20}:

  Mobile device  n. a mobile phone (usually a smartphone) or portable computing device, such as a laptop, e-reader, or tablet computer.

  Example: iPhone, Android, Samsung

  Equivalent: a piece of software that enables the user

• **Actions**^{21}:

  Action  Something that is done.

  Example: tweets, posts, blogs

  Equivalent: Spatial practice^{22} (how space is perceived)

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XVI. Annotated Bibliography:

- This essay discusses how movement and mobility shape the identification, experience and conceptualization of contemporary London. Barley claims that what a city looks like is based on how people move in it and claims that cities need to be thought of not as stable, static or bounded entities, but rather, as shifting sets of conceptual possibilities.

- This essay discusses the exchanges between the mobile phone and the city street in London. Carey argues that the mobile phone serves as the key interface through which many urban residents shape and experience city life, as well as studies the interplays between the mobile phone and the city streets.


- This essay discusses the transformation of urban space in the early twenty-first century. Castells suggests that articulations between the space of flows and the space of places are leading to a wide variety of shifts in the way we function, form, and are produced within contemporary cities. As the basis for his argument, Castells believes that spatial transformation a must be understood in the broader context of social transformation and that space does not reflect society, it expresses it, it is a fundamental dimension of society, inseparable from the overall process of social organization and social change.


- This essay discusses Marcos Novak's designs of multidimensional "transarchitecture." These are, according to Crang "transmissible cities which are designed both to represent and shape the extended cyborg mobilities as complex, socio-technical constructions, rather than as separated domains of physical and virtual space." Crang also notes the lack of value given to "presence" in architecture.

- This book contains a collection of works of 20th century architecture, including a general outline for each project and an analysis and interpretation of some of the projects. For this thesis, it is being used to gather information on: The Garden City, Citté Industrielle, Contemporary City for Three Million Inhabitants, Broadacre City, Plug-In City, the Metabolist, Poteries Thinkbelt, and Monumento Continuo.


- This essay discusses how in the late nineteenth century the telephone had started to displace the telegraph as the main means of electronic interpersonal and inter-business communication. Telephones allowed consumption at a distance and the dispersal and suburbanization of US cities began. Neighborhoods and districts no longer needed to be specific to a field or in close physical proximity in order to be more efficient and the skyscraper emerges.


- In this book Jane Jacobs analyzes the city of New York in its sociological aspects. Jacobs writes about what elements make streets safe or unsafe, about what makes up a neighborhood (not in physical terms but rather in terms of relationships and interactions among the residents of a neighborhood). Jacobs also studies the function of the small neighborhood within the scope of the large city and analyzes why some neighborhoods are able to revive themselves while others remain impoverished.


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This essay discusses the social uses of mobile phones and how it collapses forms of public and private life and also serves as a tool for connection and control. Kopomaa argues that the mobile phone is a “third place” distinct from the private (home) and public (workplace in the city). The author claims that “the use of the mobile phone implies a privatization of public space” and that it is both substitutive and supplementary.


In this book Sylvia Lavin explores the concept of “kissing” in the field of architecture. The metaphor is used to illustrate the attraction between media arts and architecture, particularly through projection and installations on architectural surfaces.


In this book Kevin Lynch studies Los Angeles, Boston, and Jersey City in order to understand what does the form of the city mean to the people that inhabit them. Lynch establishes five criteria he uses as the framework to compare all three cities: nodes, paths, landmarks, edge, districts.


This essay discusses the different forms of communication as pertaining to either physical presence or ICT mediated telepresence. Mitchell discusses the differences between synchronous (in real time) and asynchronous (with a delay) relationships and their implications in both the physical and digital worlds. His overall theory is that these ICTs do not replace the existing modes of interaction but rather they add new modes of interaction.


This essay discusses the roles of different members of a family in relation to technology. Morley claims that not everyone adapts to technology in the same way and that there is a distinction between women and men as well as between children and adults in the way in which they use, interact, and “personalize” technology.

  - This essay discusses how and if communications affect transportation in cities. The author states that “those who believe that advanced telecommunications and information have made geography and distance irrelevant appear to be mistaken. If anything, more communications appear to be producing an expanded use of the transportation system, and vice versa.


  - A timeline of telecommunications dating from 1200 B.C.E. to 1994 C.E.


  - This essay discusses how the growth of long-distance connections, facilitated by the telephone, cars, air travel, and personal computers mean for the physical proximity and the urban space in the traditional city. Webber argues
that these aspects complement the city rather than destroys it. Webber explores the concepts of community and communication (from the Latin root communis, meaning "in common") and the overlaps between them.


Image Citations:

http://www.city-analysis.net/2011/03/30/the-urbal-fix-creating-truly-sustainable-cities/

Tony Garnier, Une Cité industrielle, Paris 1917, © Architekturmuseum der TU München.


https://lebbeuswoods.wordpress.com/2009/10/19/constant-vision/.


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