

Architecture and Film: Experiential Realities and Dystopic Futures

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Introduction

Film is one of the most pervasive and accessible media forms of the 21st century. The architectural curriculum has long used films for support and presentation variety for lecture based courses. These courses are normally rooted in architectural history, modern architecture and contemporary cultural themes, and many of the films are used for their "content" and are rarely discussed as a *media form*. There are great opportunities to exploit the potentials of film in order to enhance the critical dialogue regarding visions of architecture of the past and future. The ability of film technologies to realistically represent the possibilities of an architecturally and environmentally dystopic future, is just one of the many ways that this important medium can impact thinking about the design of current and future environments. Film has the ability to convincingly ask, "what if?" Students, however, need to more fully understand the technical medium to embark on a fully supported critical discussion of film imagery and the architectural, urban realities that are chosen for it to represent. Even films that have already been "seen", can be deeply explored with new insights, given the right questions.

What is interesting in the use of film in teaching architecture, in both the study of specific films as well as the making of film, is the ability of the media to provide increased understanding of the *experiential nature* of spaces and ideas that have been trapped in 2-D media, even if based on works of fiction rather than fact. These visualizations can transcend barriers of language that may exist

in written sources of information. Requiring students to make films assists in their critical appreciation of what they see in films, and assists in dissecting and analyzing the validity and potentials of the architecture and urban environments represented in film. The study of the literary sources behind the films layers the study with a critical discussion of the limitations of film technology in portraying the descriptive word.

Film: The Third Dimension in Motion

For the last century, the medium of film has allowed increased understanding and appreciation of the realistic, three-dimensional occupation of architectural and urban spaces that previously existed as captives of word and two-dimensional representation. These would include not only the reconstructions of actual historic places, but also visionary or imaginary places. From the representation of 16th century Prague in "The Golem" (1921), to the ancient splendor of Rome in "Ben Hur" (1959) or Egypt in "Antony and Cleopatra" (1972), traditional film techniques have been relatively successful in bringing ruins to life and allowed for their experience – albeit with varying degrees of historic accuracy.

In constructing settings in contemporary film, the director generally uses a combination of live set (given), live set (modified), fabricated set (full size), models, and computer graphics. As the budgets for most contemporary films far exceed the budgets for most actual buildings (and all architecture courses and research projects), film production has increasingly been able to afford the best in labor, technology and creative skill, resulting in the creation of highly realistic and

believable visualizations of architectural and urban spaces of the past and the future. Increased use of computer graphics and 3-D modeling systems have allowed for virtually seamless transitions between live and modeled modes of representation. There is little apparent distinction between what is "real" and what is "fabricated."

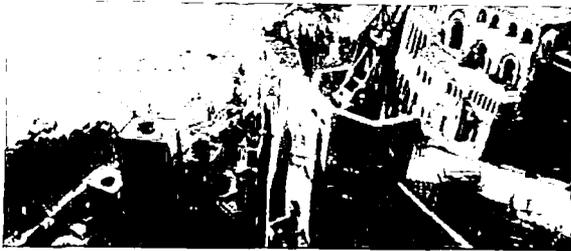


Figure 1. Lord of the Rings, Minas Tirith

More recent films have been able to make increased use of computer graphic systems to generate historic settings or components of settings to arrive at a more "correct" and experientially effective representation of the architectural setting. In Jean-Jacques Annaud's film "The Name of the Rose" (1986) we see live shots in the cloister of Eberbach Monastery, in Germany, combined with a physically constructed set based on Castel del Monte in Italy, complimented by computer assistance in the generation of the labyrinth of the tower and library, which was based upon the maze in Rheims Cathedral.¹ The "Lord of the Rings" trilogy made extreme use of computer graphics in the generation of a multitude of its sets, the most architectural being the spiral medieval town of Minas Tirith, Capital of Gondor in "Return of the King" (2003). The blend between live set and computer generated set in films such as the "Harry Potter" series, leaves the viewer often questioning whether certain scenes were in fact filmed on location, fabricated or "blended." When such techniques are used with history based sets, it assists in developing a more accurate understanding of the social and cultural implications of the architecture of the period, which could perhaps only be heightened by adding "surround smell" to "surround sound."

Filming Techniques: Impact on Creating Architectural Spaces and Urban Settings

Filming techniques are of significant consideration when critiquing any film. The art of filmmaking has experienced significant technological change since its invention in the mid 1800s. This has obviously had an enormous impact on the ability of filmmakers to depict architectural and urban settings. No film can be assessed without first defining the limit of technology of its production year, and then the skill of the director in making best use of that technology.

The "zoopraxiscope" of 1867 used a series of still images, viewed through a slit to simulate a moving picture. This technique is still used in "stop-motion" animation of a sequence. Louis Lumiere invented the first portable motion picture camera in 1895 called the Cinematographe. At that, early motion picture cameras were bulky, not easily moved and had a fixed focal depth.² We see in the "Cabinet of Dr. Caligari" (1920) the use of masks laid over the fixed camera position to give the effect of a closing or opening aperture.

Sound was not physically connected to 35mm film until 1910, and it was not until 1927 with "The Jazz Singer," that talking was incorporated as well.³ Early films used a combination of music, musical sound effects and subtitles to convey the mood and dialogue of the film. The ability to manipulate sound (speech, music, nature) was central to the ability to evoke the proper emotional response to a space. The absolute silence of space, in "2001: A Space Odyssey" (1968) evokes horror as Frank drifts off, and contrasts brilliantly to the depiction of the rotation of the space station as set to Strauss' "The Blue Danube."

Early film was reliant on a fixed camera position, fixed lens, fixed depth of field, and the physical construction of sets and mini models to represent imaginary places. Fritz Lang's set for the city of "Metropolis" (1927) was one of the more large-scale, highly detailed early sets. The model was over 6 feet tall and made use of stop motion animation to give life to the city.⁴ The rotation of the camera to pan a shot was the first introduction of movement of the camera itself in the film. The zoom lens was not invented

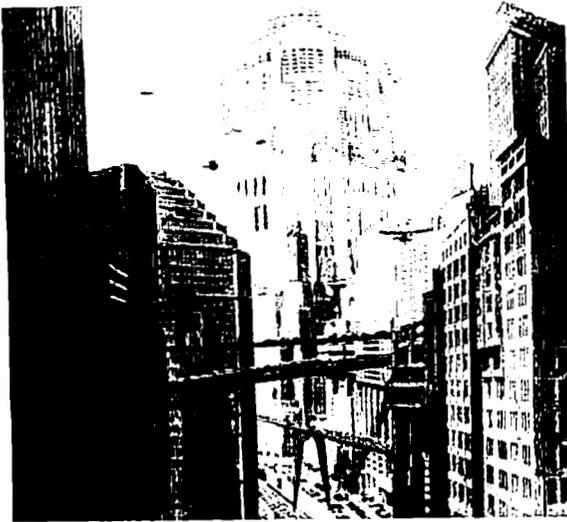


Figure 2. Metropolis (1927) Model of City

until 1932, but a practical model was not in production until 1953. Stanley Kubrick's "2001: A Space Odyssey" (1968) created one of the first "moving sets".⁵ The space ship in which Dave jogs is in reality a 45-foot diameter "wheel". The camera was set in a track and seemed to follow Dave as he jogged around the circumference of the station, when in fact he was jogging on the spot and it was the set that moved. The Steadicam was invented in the early 1970s by Garrett Brown.⁶ It involved the fabrication of a balancing system and vertical pole to dampen the shaking of the cameraperson as they moved along behind the action. The ability for the camera to follow the action allowed for a far more realistic experience of the spaces of the film, changing the viewer from a distanced onlooker to a participant. Stanley Kubrick used a Steadicam in the 1980 film "The Shining" to follow Danny around the hotel on his tricycle. These scenes allowed also for a child's size interpretation of the maze of hallways in the hotel, which was able to alter the emotional focus of the interpretation of the architecture by relating to the stature of the viewer.

The ability to change the focal length of the camera assisted in the development of deep focus versus shallow focus shots. Most scenes are shot using deep focus as it maintains an even sharpness throughout the various parts of the scene. Although this is not actually the way we see, in a film presentation it is the normalized assumption of the way that we

see. This is done as the film image on the screen is at a set distance from the viewer and would normally be expected to be all in focus. The technique of shallow focus is used in Ridley Scott's "Blade Runner" (1982) to shift the emphasis of the scene from Deckard to Rachel in order to make the viewer perceive the situation from the differentiated viewpoint of each character. This technique is also used to change the focus from the character to the architectural space that surrounds the character.

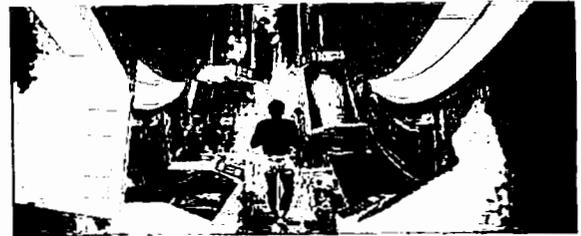


Figure 3. 2001: A Space Odyssey - the turning set

The relationship between the film and any book upon which it may be based can also have bearing on the direction of the setting in the film. Contemporary films may choose to deviate from the book for varying reasons, but early films often deviated for lack of technical ability to accurately depict the spaces or actions of the book. The techniques available to build scale models, for instance, can negatively impact the potential representation of realities in the film. In early 20th century films, such as "Aelita: Queen of Mars" (1924), the depiction of life on Mars in the film fell far short of the highly descriptive passages about the outdoor Martian environment of the 1922 book by Alexei Tolstoy of the same name, upon which the film was (hence, loosely) based. The film used theatrical sets and costumes based upon constructivist style to set the mood for the interior environments of Mars - in contrast to realistic settings of life in Moscow. The Martian landscape was only briefly viewed through a window as a static model. The 1990 film "Total Recall" based part of its story on the planet Mars. This film won a Special Achievement Academy Award for special effects, in part for the representation of this aspect of the film. A far different view of Mars was achieved through the availability of computer modeling systems, although critics cite numerous *scientific errors* in fact in the representation. The study of science fiction films requires a parallel discussion

stream that looks at actual scientific progress and positions of knowledge as it relates to the production time of the film (or book upon which the film was based). This is the only way to ascertain whether or not the director is willfully deviating from fact.

The addition of color to film added specific challenges when models were used to create urban and architectural scenes. The effectiveness of the model sets of "Metropolis", "Aelita" and "Things to Come" were in part a result of the cleanliness of the Modern or Constructivist architectural style, and the crispness of the black and white images. Tonality versus full color made it technically simpler to achieve a believable model that could be enhanced with stop motion to increase its realism through activity. In the film, "A Funny Thing Happened on the Way to the Forum" (1962), the colorful set is intentionally left quite unrealistic/theatrical in parts to purposefully increase the effectiveness of the satire. The colorful historic sets of Rome and Egypt of the epic genre of films of the 1950s through 1970s were appropriate to the technology of the decade, were intended to be realistic, but are boxy and fake in appearance when compared to the wonder of Minas Tirith, Capital of Gondor, as depicted in "The Lord of the Rings: Return of the King" (2003), which used a combination of real and computer animated settings, seamlessly joined that allowed for a highly realistic experience of the spiral city. Filming techniques now have the ability to make visual images of environments that blend seamlessly from the physically constructed full sized set to realistically animated visions of characters speeding through highly complex urban cities set on earth or unknown planets.

Special effects have allowed for more realistic representations of the effects of disaster in the architectural setting. Fritz Lang's "Metropolis" (1927) depicted a fairly realistic flooding scene in the underground city, using a combination of live full sized sets and real water, combined with cut outs to models of machines that were to have been on a much larger scale. The destruction in H. G. Wells "Things to Come" (1936) used small-scale models that were burnt or destroyed to imply the wage of war. The use of models is fairly evident when viewing the film for accuracy. Computer animation has allowed the scale of such depictions to increase to a realistic

portrayal of disaster on an urban scale, that seems to take into account the weight and materiality of the building elements. From the 1998 urban environments in "Godzilla" and "Armageddon", to the flooding of New York City in "The Day After Tomorrow" (2004), the destruction of urban environments on film has become so believable that many viewing the collapse of the World Trade Towers in 2001 failed to initially feel the situation as they were psychologically so conditioned to seeing such massive urban destruction in film.

Visionary Architecture And Film:

Film gives us the rare three-dimensional opportunity to completely question all that has come to be accepted in terms of the language of architecture as well as architectural and historic convention. It allows for educated speculation on what may have been in the past, and what the world of the future might become. Current film technologies provide such a high degree of realism in the product, that architectural education can use these films as vehicles for critical discussion of the ethos of these environments. Much like, and yet experientially speaking, well beyond the efforts of the Visionary architects of the 18th century, film can create visions of realistic feeling environments that can be used to reinvent the meaning and defining factors of architectural expression.

Much the same as visionary works of art and architecture, films, and in particular the fantasy and science fiction genres, have been used to provide societies with a means to escape reality. Unlike architecture, film spaces have never had to be realistic, functional, nor have they been obliged to possess a conscience. Yet, in architectural education, we can use these "expensive", ready-made images of both past and future worlds to center critical discussions about our world and to raise issues of conscience.

Our Dystopic Future:

dys·to·pi·a

1. *n.* An imaginary place or state in which the condition of life is extremely bad, as from deprivation, oppression, or terror.
2. A work describing such a place or state



Figure 4. Blade Runner (1982)

Beyond the natural inclusion of architecture and urban space as setting contemporary to the supposed age of the film, some of the most provocative uses of architecture and urban space arise in the creation of film dystopias. Such films engage the moralistic discussion of future eventualities in light of the presumed outcomes of current social, political and environmental states. Although the urban environments have not necessarily been "academically designed" by those in the architectural field, they can be used to fuel the "what if?" discussion based upon actual facts and trends. These science fiction based films tend to be the "favorites" in courses that relate architecture and film, as they generate the most provocative, compelling, and even disturbing, images of the future. Although the proliferation of this "sci-fi, urban dystopic future type" seems to be reaching crescendo production peaks, there are some key early 20th century films that can be seen to provide key precedents. "Metropolis" (1927) and "Things to Come" (1936) present quite opposed views of the urban future, although both can be seen as quite bleak.

The urban vision of "Metropolis" (1927) was seeded by the skyscraper boom in New York City, however to a more frenetic view of density and height. The film influences the urban visions of "Just Imagine" (1930), which was conceived as a comedic parody of "Metropolis" as well as the sheer scale of the representations of future New York in "The Fifth Element" (1997). In "The Fifth Element" the vertical scale has grown to such an extent as to result in atmospheric stratification of the urban interstitial spaces – in contrast to the below ground worlds of "Metropolis", these now exist above ground, but so far below the reach of light and air as to be cast in perpetual darkness and fog.



Figure 5. The Fifth Element, view of New York

"Things to Come" takes the notion of below ground living as presented in "Metropolis" and proposes this to be the desired future location for safe control of a cleansed urban environment. Subterranean living tends to become a dominant theme in many films, and is always seen to be either positively futuristic, or negatively as incarceration. Osamu Tezuka's 2001 Anime version of "Metropolis" creates a vitally animated world based on Lang's film environments but more carefully detailed and designed. Animated film is interesting to include in these discussions as it uses computer technologies in addition to traditional cel production, but in an animated film, as in the set based upon a physical model, *everything that is included in the film is purposefully added*. There are no accidents of live shooting or shortcomings of actual constructed models or sets.⁷ With animation, as with CGI technologies used in live filming, the content is entirely flexible and can be directed to whatever is desired by the director.



Figure 6. Anime Metropolis (2001)

"Soylent Green" (1973), "Blade Runner" (1982), and "Brazil" (1985) stand as the most influential dystopic film environments of this period. In terms of cinematography, plot, visualization of urban futures and environmental deterioration, most of the more recent efforts can be seen to derive their ideas

from these productions. Each film uses available technologies quite differently in creating their distinct dystopic atmospheres. "Soylent Green", the earliest of the three films, suffers in part from being a production piece of the 1970s. The virtual annihilation of nature is predicted with human life reaching extreme overpopulation, which is reflected in overcrowding, filth and dependence on a dysfunctional social system for distribution of nutrition substitutes. The theme of artificial nature/food runs through "Blade Runner" where in addition to food, humans are also replicated with lifelike accuracy. The setting in "Blade Runner" has the advantage of early CGI technologies which allow for a blending of live architectural sets, shot in Los Angeles (Bradbury Building, Union Station, Million Dollar Theatre, Ennis Brown House) with digital images which appear to make the live sets disappear into a rainy, dark view of L.A. 2019 that is essentially devoid of sunlight and nature. The futuristic view of L.A., as technically presented in "Blade Runner", holds, even when compared to current films such as "Minority Report" and "The Matrix". Although the CGI technology used in these more contemporary films has significantly advanced, and scenes have the ability to be experienced "in motion", the essentially 2-D images layered into the live sets of "Blade Runner" have been convincingly rendered - enough that a sense of motion seems evident.

Of all of the films about dystopic futures, Terry Gilliam's "Brazil" (1985) remains the anomaly. The film does not purport to be set in the future.⁸ It uses a curious mix of live set / modified set, and little in the way of computer generated special effects. Gilliam used Ricardo Bofil's Marne La Vallee (the present site of Euro Disney), as Sam's apartment complex, a cooling tower outside London (for the interrogation scene), and numerous other known architectural pieces.⁹ The sets are layered with odd technical and HVAC gadgetry and ducts, to present a frenetic view of the spaces that give life to the movie. The Monty Python influence is clearly evident in the way that the design of the sets was approached. It does prove that there are still means alternate to CGI that can effectively be used to fabricate effective architectural and urban settings for films. The film always leads to interesting discussions as a result of its eclectic feel and ambiguity of time.

Distant Futures: The Architecture of Space

Gravity determines architectural form and structure. There is very little that has been developed throughout the history of architectural form and structure that cannot be attributed to more and more refined responses to the actions of gravity on structure and materials. The development of all structural form, from the simple beam, round arch, gothic arch and systems of vaulting, to more complex structures, has, in combination with specific material properties and limitations, responded to the need to control gravitational forces. Real architecture must function in a real world, governed by the laws of science.

Gravity has also determined the way that we occupy space, and hence, the way that we must design space. The floor is where we walk. Walls and ceilings bound us, but we are not obliged to come into contact with those surfaces unless we so choose. Material placements have developed that respond to issues of wear and durability, again subject to gravitational orientation. Scientific concerns have driven the design of structures and architectural systems since the notion of shelter was first conceived. Speculations during the 1700s as to the origins of the traditions of architecture - Laugier's "Rustic Hut" - all support this theory of the development of architectural forms and typologies.

Within the profession and practice of architecture, there have been various venues for challenging both gravity and science. The Visionary Architects of the 1700s, such as Etienne Louis Boullée, adopted a two-dimensional, painterly solution to the proposition of unbuilt (unbuildable?) architecture. Had reinforced thin shell concrete been invented 100 years earlier, Boullée's Centotaph for Newton or Biblioteque Nationale might have been deemed constructable, rather than looking to future possibilities. Saarinen's TWA and Dulles Terminals both attest to the possibility.

In spite of the limitless capabilities in film making with the advent of computer aided drawing and design software, the tendency in the presentation of zero gravity environments in film has normally maintained a gravity

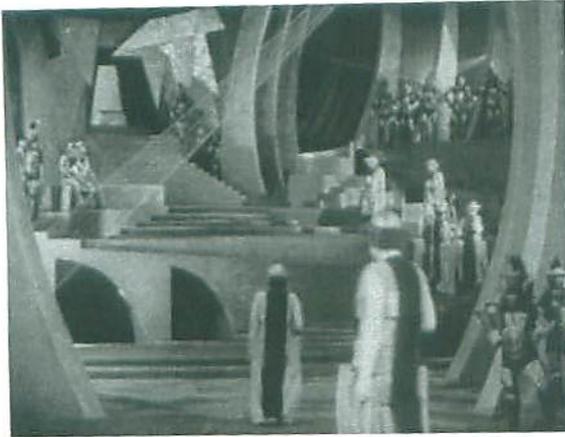


Figure 7. Aelita: Queen of Mars (1924)

driven, traditional, architectural solution. Sliding doors that are non rectangular in elevation seem to signify the "future" in space architecture. From "Aelita" (1924) to the most recent installment of "Star Wars" (2005), film has largely maintained an architectural response to the act of living and building in space that is almost totally derived from traditions in building on earth. One notable exception would be in the sets for "Outland" (1981) where the lack of gravitational force on Jupiter's moon Io is acknowledged in the design of a jail cell whose punishment is to leave the offender floating in a zero gravity environment.

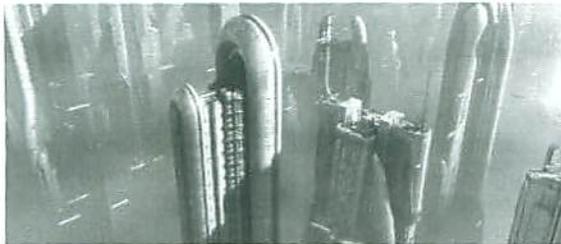


Figure 8. Star Wars: Attack of the Clones

The reasons for this remain perplexing. Early filmmakers were blissfully ignorant of life beyond the gravitational pull and atmospheric confines of earth, and so cannot be held at fault for misrepresentation. In the year 1900 common scientific belief held that the visible markings on the surface of Mars were the result of constructed canals that once held water. In H. G. Wells book "First Men in the Moon" (1901) upon which the 1964 film of the same name was based, the environment of the moon was presumed to have oxygen for

breathing, if a slight reduction in gravitational pull. Kubrick's film "2001: A Space Odyssey" (1968) had benefit of NASA based consultants and the results of the Mercury and Gemini missions from which to derive its knowledge. Although we have still not managed to send manned flights to Jupiter, the architectural and urban representations of life in space that it proposed were highly cognoscente of issues arising from lack of both gravity and air. The set design of the rotating space stations was meant to realistically induce gravity through the use of centrifugal forces. Stewardesses wear grip slippers to remain attached to floors, walls and ceilings as they walk through the shuttle, and sport turban like hats to contain the (hard to film) floating hair that would also be the byproduct of zero gravity environments.

The space genre films that followed "2001" have taken a hit and miss approach to their acknowledgement of the science of space. This has had significant impact on the architectural and urban settings that are contained in the films. This needs to impact any discussion that we can have about the potential for architectural design "off world" as in very real terms these extreme environments will make earthly considerations of climate seem trivial, and will bring a much higher level of engineering consultation to bear on construction. Those whose plot line confines the action to the space vehicle itself, "Alien" (1979), seem to take a more realistic position of the dangers of life in space, although the design and construction of most space stations maintain construction characteristics closer to earth based methods when compared to the reality of the International Space Station that is currently being assembled.



Figure 9. Ron Herron's Walking City (1964)

There is interesting room for discussion about the dual range of influence of these films. Can some of these future environments be used to imagine earth bound potential urban realities? Have there been historic visionary architectural influences that have led to the definition of off-world architecture. Looking through some of the proposals of Archigram and Frank Lloyd Wright may lead into some intriguing speculations.

Using Student Made Films in the Teaching of Architecture:

Filming techniques today vary in complexity, from the highly multifaceted professional systems used by George Lucas and company, down to the decidedly student accessible MiniDV camcorder, coupled with iMovie, or slightly more difficult FinalCutPro/Adobe Premiere. Easy access to film making technology at the student level can make film a viable learning option and physical exercise. The study of cinematographic techniques and their application to the making of short films assists students in the development of a critical eye for film technique as well as content.

The project that was developed for use in my course, "Architecture and Film," which is given to a combined group of students varying from third year undergrad to master of architecture students, attempts to relate to a genre with which students are highly familiar -- the music video. Students are required to create a 3 to 10 minute video that relates a piece of music of choice and creates a visual/animated/video piece that connects selected architecture to the music. The project exposes students to a scaled down version of the process of selecting/designing the architectural set for film. They create a "video" that uses architecture and architectural images in such a way as to support the music, and vice versa. The project is undertaken in the third month of a 12 week course, so is able to benefit from exposure to and discussions surrounding a selected series of thematically based films.

This course is in its fourth year of offering, and the students from each year are able to view the productions of the previous years, which assists in challenging the technical development and complexity of content in successive film productions. Students have built stead-cams, worked with hand drawn

and computer animation, slow motion and reverse filming techniques. The current class is working with a "Space Architecture" theme and have been asked to speculate on the architectural implications of zero gravity environments. The results are always highly captivating and considered by the students to be well worth the extreme effort involved in learning the software to create, in most cases, their first film.

Conclusion:

As film is one of the most pervasive and accessible media forms of the 21st century it is becoming increasingly important to more proactively incorporate it into the architectural curriculum. Beyond the usual use as supplementary information in lecture-based courses, film studies can be used to increase knowledge and critical discussion about architectural and urban environments of the past, present and future. Film gives educators an actively animated opportunity to include cultural issues that arise from ethical concerns surrounding the future of our environment, as well as speculations as to the impact that architecture may have on its urban form, and vice versa. With current CGI technologies, many of the spatial representations that are represented in film and gaming environments are far more daring and potentially richer than much of what budget has permitted to be built in the real world. The ideas and motivation behind this visionary version of architecture and urbanism is worth discussing.

The study of specific films as well as the study of cinematographic techniques used in the making of films, offers the ability of the media to provide students with an increased understanding of the *experiential nature* of spaces and ideas that have been trapped in 2-D representations, even if based on works of fiction.

Extending the knowledge of film to the actual "making of a film" further extends the dialogue and understanding as it forces students to closely examine the spaces and spatial relationships in the film setting, thereby assisting in this development of experiential knowledge.

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Notes

¹ Haft, Adele: Maps, Mazes and Monasteries.

² The History of the Motion Picture.

³ Motion Picture Sound.

⁴ Film Architecture from Metropolis to Blade Runner. p. 96.

⁵ Bizony, Piers. 2001: Filming the Future.

⁶ Wikipedia: Steadicam.

⁷ Metropolis: A Modern Artifact.

⁸ Brazil: The Motion Picture.

⁹ Brazil Frequently Asked Questions.