Of Blackboards and Bathrooms: Space as Metaphor for Power Relations in *Hidden Figures* (2016)

Cora Zoé Övermann

Abstract

This paper examines the film *Hidden Figures* (2016) from a critical perspective which combines concepts of intersectionality, gatekeeping, and spatial analysis. Through its depiction of the space race in 1960s America, the film superficially focuses on outer space. Nevertheless, much can be gleaned about the inclusion and exclusion of groups and individuals within the inner space of the NASA campus. The analysis thus centers around two questions; the question of who cannot access spaces, privileges, and knowledge, as well as the question of who can. In emphasizing the role of the gatekeeper, more attention is afforded to the male characters in the film, which have received little previous regard in comparison to the three Black female leads. In this paper, I argue that the White men's range of movement and their degree of belonging at NASA stand in crucial relation and opposition to the Black heroines. Three characters have been chosen to exemplify this point; Katherine Johnson, Al Harrison, and Paul Stafford, who interact with one another in a triangular relation of inclusions and exclusions. Five locations have been selected to illustrate their interplay in terms of power and space: the West Computing Group, the Space Task Group, the bathroom, the hallway, and the home.

Keywords: space race, spatial analysis, gatekeeping, intersectionality, 1960s America.

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Science, technology, engineering and mathematics (STEM) have traditionally been the domain of White men in both the real world and the media. In a joint overview titled "Portray Her: Representations of Women STEM characters in Media" (2021), the Lyda Hill Foundation and the Geena Davis Institute on Gender in Media relate that male "STEM characters significantly outnumbered women STEM characters in film, television, and streaming content from 2007–2017" (9). Moreover, the "vast majority of STEM characters in entertainment media" were White, accounting for more than seventy percent of all characters. In contrast, only 16.7% of STEM characters were Black. The averages that the Lyda Hill Foundation and Geena Davis Institute present cover three visual media formats: film, television and streaming content. Out of these three, film is frequently less inclusive towards both women and Black people than television and streaming content (9–10). At

the intersection of race, gender, and the fact that few STEM characters function as leads in popular media, one finds an underwhelming two percent of Black female leads (11). It is against this backdrop that one understands the significance of the American biographical drama film *Hidden Figures* (2016). With immense success at the box office and a number of charity screenings directed at youth to promote careers in STEM, *Hidden Figures* features characters who often have little prominence on screen.

Directed by Theodore Melfi and based upon the novel by Margot Lee Shetterly, *Hidden Figures* portrays three Black women who worked for the US National Aeronautics and Space Administration (NASA) during the era of the space race. Mary Jackson (Janelle Monáe), Katherine Johnson (Taraji P. Henson) and Dorothy Vaughan (Octavia Spencer) are shown as three talented friends who made critical contributions to NASA in 1961 and 1962, culminating in the first crewed American orbital spaceflight. Since its release in 2016, scholars from all over the world have examined how the Black heroines are portrayed in the film. While some note the positive impact of bringing these "hidden figures" to light and providing role models for a new generation of women in STEM (Robert 3), others critically inspect the White savior figure Al Harrison and the isolation that the women operate in (Frühwirth et al. 2021, 84). Since both Theodore Melfi as director, as well as Allison Schroeder as screenwriter, are White, the question of who tells this story can be further taken into consideration. In addition, one might also ponder the significant changes that have been made in the process of adapting the book, and history, to the screen. Quoting author Margot Lee Shetterly, Timo Frühwirth et al. (2021) assess that "[f]or better or for worse, there is history, there is the book and then there's the movie" (88)—which dramatizes the heroines' experiences by adding instances of discrimination which never happened, while surreptitiously glossing over ongoing discrimination and segregation outside of NASA at the time.

With this paper, I intend to join existing scholarly interest regarding STEM in popular culture. Since role models for women in STEM remain rare, students "conclude consciously and unconsciously that these careers are not for them because they don't see people like them" (Valantine in Shen 2013, 22). If representation is low, it can "affect young people's career choices, leading to a mutual reinforcement of gender stereotypes," as Elena Makarova et al. point out (2019, 2). Similar arguments are presented by Jocelyn Steinke (2005, 27), Carol Colatrella (2011, 8) and Tara Nkrumah (2021, 1336), all pointing to the significant influence of mass media and American popular culture on Western perceptions about who belongs in STEM—and who does not.

The purpose of this paper is to examine who is shown as belonging in STEM via the example of spatial relations in the film *Hidden Figures*. Since both segregation, which has lasted into the era that the film portrays and which was protested by the then ongoing civil rights movement, as well as the medium of film itself, are highly spatialized, the examination of spatial relations as metaphor for power becomes a suitable tool for

analysis. For a film that focuses on outer space, much can be gleaned about the access, inclusion and exclusion of groups and individuals within the inner space of the NASA campus.[1] As Nkrumah (2021) notes, "[r]epeated examples of restricting individuals from certain spaces due to gender norms," as well as racial inequalities, "surface in the film" (1346). Yet these have not been previously examined from an intersectional perspective. Such an analysis should not only include the question of who *cannot* access spaces, privileges, and knowledge, but also the question of who *can*. Next to intersectionality and a sociopolitical reading of space, this paper therefore operates with the concept of gatekeeping. In emphasizing the role of gatekeeper, more attention is afforded to the White male characters in the film. Their range of movement and their degree of belonging at NASA stand in crucial relation and opposition to the Black heroines. The following analysis will treat this opposition on basis of the triangle formed by Katherine Johnson, Al Harrison, and Paul Stafford.

1. Theoretical Approach

1.1 Intersectionality

The film *Hidden Figures* portrays a segregated 1960s Virginia. Due to conventions of gender as well as race, the White male characters are shown as being significantly less restricted in their movements than the three Black female leads. Both their gender and their race position Katherine Johnson, Mary Jackson, and Dorothy Vaughan as initially outside of the prestigious circles at NASA. Their experience can and should therefore be considered from an intersectional perspective. First introduced by the feminist theorist Audre Lorde in the 1970s and later coined by American civil rights advocate and scholar Kimberlé Crenshaw in 1989, intersectionality "is the concept that social identities, such as race, class, and gender, create overlapping systems of discrimination and oppression" (Lyda Hill Foundation and Geena Davis Institute 2019, 10). It can be defined "as a theoretical and methodological approach to understanding the meaning and consequences of holding multiple coconstructing categories of social group membership" (Ireland et al. 2018, 230). Referring to recent work by Crenshaw, Danyelle T. Ireland et al. (2018) clarify that intersectionality is "a theory not of multiple identities but of how holding certain identities makes one vulnerable to discrimination and exclusion" (230).

Especially in STEM, unconscious bias and traditional Western gendered values can make intersectional factors of discrimination difficult to detect. As Katherine Robert (2021) explains:

[1] I would hereby like to thank the Bremen research colloquium of July 2019 for the animated discussion of this film, which has in part inspired the present paper.

> Intersecting social identities like age, gender, and race as well as academic and professional disciplines and degree attainment generate a hierarchy of power in STEM that is difficult to study due to the complex relationality between these various social identities. (3)

While the intersections between racial and gendered discrimination complicate many careers, STEM in particular is a field which has been constructed around White ideals of rationality and masculinity (Ireland et al. 2018, 227). Furthermore, there persists a "culture of no culture" (Rose 1994, 2), which denies cultural influences on the sciences and therefore makes them resistant to revision. Taking up the example of engineering, Robert (2021) points to the increasing difficulty of countering inequalities due to "the culture of engineering, which is apolitical, ahistorical, and locked in a positivist mindset that research finds often denies the space to acknowledge how different bodies experience engineering culture" (3). As a result, a White and patriarchal status quo is maintained, which present gatekeepers further contribute to.

1.2 Gatekeeping

Gatekeepers are persons in a professional network who hold the power to grant access, resources, and professional advancement to others. In the words of Massimiano Bucchi (2015), gatekeepers are "those scientists or other individuals who, because they occupy particular positions within scientific institutions, are able to influence the distribution of resources such as research funds, teaching posts or publishing opportunities" (246). In the film *Hidden Figures*, notable examples of gatekeepers include Al Harrison as head of the Space Task Group, his employee Paul Stafford, the judge who enables Mary Jackson to attend advanced classes, and to some extent, Vivian Mitchell. With the exception of the latter, all of these gatekeepers are White and male. They are part of the dominant group which reproduces itself through gatekeeping (van den Brink and Benschop 2014, 464).

According to Robert K. Merton, gatekeepers as a collective "evaluate the promise and limitations of aspirants to new positions, thus affecting both the mobility of individual scientists and, in the aggregate, the distribution of personnel throughout the system" (Merton in van den Brink and Benschop 2014, 464). Gender is a deciding factor in this evaluation (ibid). Therefore, "[w]hen the gatekeepers are predominantly men, women have difficulty gaining access to desirable academic networks" (van den Brink and Benschop 2014, 464). Marieke van den Brink and Yvonne Benschop relate this phenomenon to the principles of homophily, homosociality, and the "similar-to-me-effect" (2014, 464). In the case of *Hidden Figures*, these aspects cover not only gender, but also race. If NASA is controlled by White and male individuals, then the power these parties hold is likely to be maintained, unless active change is enforced. To date, "making the organization [NASA] inclusive and equitable is an ongoing mission," as Robert notes, observing that the "whiteness, and maleness, of STEM remains in place" (11). I argue that this status

quo not only remains in its place, but further determines what space is afforded to diverse actors in STEM, which the film *Hidden Figures* exemplifies.

1.3 Spatial Analysis

It was Nancy Hopkins who first measured women's offices in STEM and found that they were considerably smaller than their male colleagues' in the 1990s (Humphries 2017). In a study conducted from 2012 to 2018, British researchers still observed that women starting their first research labs "have access to less laboratory space than their male peers do" (Else 2019, n.p.). In a metaphorical as well as literal sense, it becomes clear that women to date are afforded less space in STEM. While space is only one of a number of critical resources—such as funding, equipment, and staff—it is a crucial one. Therefore, the present paper treats space as metaphor for autonomy and belonging in STEM.

As a visual medium, film provides clues towards space both through its settings as well as through character movements in relation to their environment and one another. Space does not exist as neutral territory—rather, it is shaped by human relations and experiences. Even though the work of Henri Lefebvre, a pioneer in spatial studies, has been contested in the decades that followed its publication, "his primary call to attend to the agency and complexity of space as a lived, social product remains a central insight" (Zacharias 2016, 214). In their paper "Time for space: A narrative review of research on organizational spaces," Scott Taylor and André Spicer (2007) define space among three dimensions: "[t]he first conception treats space as distance between two points. The second conception treats space as materialized power relations. The final conception treats space as the manifestation of our imagination" (327).

It is the second conception that becomes relevant to my analysis of *Hidden Figures*. As Taylor and Spicer outline, the great value of viewing space as physical manifestation of power relations lies in moving away "from a focus on *how* surface manifestations of organized spaces operate," and instead considering "the reasons *why* spaces are configured as they are" (332). To Norbert Schaffeld (2016), "the dominant distribution of scientific space" in science narratives can give insight into gendered exclusions from areas where new knowledge is produced (182).

Next to perceiving space as a metaphorical manifestation of access, inclusion and exclusion, there are two further considerations that can meaningfully contribute to an analysis of Black women in STEM on screen. The first one is presented by Teresa Bridgeman (2007), who argues that while "[o]bjective spatial relationships between aspects of a narrative are helpful in enabling readers to visualize its contents," equally important are the ways "in which characters inhibit the space of their world both socially and psychologically" (55). How women experience their working environment can provide clues to their sense of belonging (55), which is "a key predictor of persistence in STEM fields" (Diekman et al. 2017, 156).

The second theory turns from the individual character to the United States as a nation. Especially during the space race, borders are relevant within buildings, cities, states, and in between nations. As Dora Holland and Jack Burns (2018) point out, "[s]pace, by the nature of the word, means thinking outside of the boundaries of our own border, be it country or global borders" (13). In *Hidden Figures*, outer space is something to be conquered, an expansion which echoes the previous drive of the Western frontier (Méndez González 2001, 10). "Because national interests have dictated U.S. direction in space exploration, this has meant that as the country finds itself at the crux of where it stands on the global stage politically, it also does so in space endeavors," Holland and Burns relate (13). In effect, "[t]he examination of the changing narrative of space exploration in the United States is also an examination of the changing self-perception of the country in relation to the rest of the world" (13). The film *Hidden Figures* itself notably adds to the narrative of the United States as an innovative country facing ahead.

2. Film Analysis

The narrative of the United States dominating the space race permeates the entirety of *Hidden Figures.* It also aids the three Black heroines in interacting with White male gatekeepers throughout the film. From the policeman who interrogates Katherine, Dorothy and Mary in their first joint scene to the judge who grants Mary access to higher education, most depicted male figures can be convinced by arguments that point to the space race and simultaneously flatter their own image as White American men. Three of the most prominent male characters are the astronaut John Glenn (Glen Powell), head of the Space Task Group Al Harrison (Kevin Costner), and his employee Paul Stafford (Jim Parsons). All three figures are shown as unrestricted in their movements and have access to spaces and knowledge. In relation to Katherine, Al and Paul perform the role of gatekeepers, while John on occasion functions as a catalyst.

2.1. A Note on Masculinities

Because it has not previously been discussed, I would like to note in this instance that John, Al, and Paul can among themselves be ranked in a hierarchy of masculinities (Connell 1998, 5). The fact that all of these characters are White—as are all the portrayed men working at NASA—is crucial, because it limits the given depiction to White, middle-class masculinity in the workplace. While the following analysis will have to disregard John as a side character, it is he who embodies the most prestigious facets of American masculinity. As an astronaut who advances the United States in the space race against Russia, John is a public figure and national hero. He is depicted as young, healthy, fit, conventionally attractive and level-headed, as well as just and humorous. He thus symbolizes White American hegemonic masculinity (Connell 1998, 5).

Al approves of John, even though he cannot embody the same degree of hegemonic masculinity himself. Al is notably older, less attractive, and less directly associated with physical action. Nevertheless, as head of the Space Task Group, he combines authority, rationality, and a sense of justice and appreciation of hard work and efficiency. Out of all characters introduced in the film, Al is the one who moves most freely across Langley campus. He is also the one who most prominently underlines the national spirit and position of the United States in the ongoing space race. Put under pressure at the beginning of the film by President John F. Kennedy and his own superior, Al highlights his authority by positioning himself above Paul.

Portrayed by Jim Parsons, who viewers will be familiar with as Sheldon Cooper from *The Big Bang Theory* series, Paul ranks the lowest in terms of masculinity. He possesses neither John's physical nor Al's professional prestige. Nevertheless, since he is White and male, the gendered and racial hierarchies in the given context of the 1960s United States position Paul as superior to the Black and female Katherine, whom Paul selects as the target for his own frustrations. As a result, a hierarchical flow of pressures and humiliations can be detected throughout the film, which trickles down from the president of the United States, to the higher ups at NASA, to its White male employees, and finally to its Black female members.

I argue that a significant portion of dramatic tension within the film *Hidden Figures* arises from the triangle constellation between a disadvantaged Katherine, a prickly Paul, and an avuncular Al, who helps Katherine while continuously disparaging Paul. Even though Al can be read as an unsympathetic character, it is Paul who is positioned as the unlikable and spiteful foil to Katherine's rising mathematical success throughout the film. Meanwhile, Al is presented as the White savior who helps Katherine to advance and who upholds American ideals. The following paragraphs examine how these relations and power dynamics are mirrored in space throughout the film, organized by relevant locations and in a roughly chronological order.

2.2 The West Computing Group

The West Computing Group constitutes the cradle of professional development for Katherine, Dorothy, and Mary. At the beginning of the film, the three women are shown in a room labelled "colored computers," which appears to be their regular workplace. The room is located in the basement and has no windows. Even though the women who work there are dressed brightly and maintain a cheerful atmosphere, the room itself is dim, grey, and unappealing (00:10:41). As the viewer soon finds out, the West Computing Group is removed by a considerable distance from strategically significant offices such as the Space Task Group. By assigning a room in the basement to its Black and female employees, their lower social status is exemplified in space.

As a room, the West Computing Group embodies a segregated and patriarchal status quo. The action centering on the three Black heroines begins on the day that this status is disrupted. In receiving new assignments, both Mary and Katherine are enabled to step outside of their familiar zone and into new environments. Mary is invited to work in engineering, while Katherine is spontaneously recruited by Vivian Mitchell for the Space Task Group, which needs a mathematician capable of handling analytic geometry. Since the position cannot be filled from the talent pool in the White male Space Task Group or the White female East Computing group, Katherine is presented a chance she would otherwise be denied.

The fact that assigning a Black woman to the task is a last resort is echoed in Vivian Mitchell's parting words: "didn't think I'd come all the way down here" (00:11:52 – 00:11:54). The brief interaction illustrates that the West Computing Group is indeed located outside the usual range of movement of a White female employee such as Vivian Mitchell. Yet even though the environment is comparatively foreign to her, Vivian Mitchell is able to move through it freely and ask for favors. For the Black female employees to be able to leave the "colored" spaces they are assigned, they depend on the need that others have of them. This holds true for Mary (needed in engineering), Katherine (needed in the Space Task Group) and Dorothy, who is eventually needed in operating the new International Business Machines (IBMs).

In each case, the eventual relocation is significant, because it signifies boundary crossing, movement, and progression. While progression is something that is celebrated by the heroines, they are also wary of the unfamiliar risks that the new environments entail. While Mary faces physical dangers in engineering, it is the threat of failure that bothers Katherine. After her first day in the Space Task Group, she confides in her friends that she is concerned about not being able to "keep up in that room" (00:27:52). She prophesizes that she will either be back with the West Computing Group within a week, or out of a job entirely. While the first option signals regression from a professional as well as spatial point of view, the latter option denotes Katherine's possible exclusion from Langley campus.

Katherine's predictions turn out to be warranted in so far as she does return to the West Computing Group once the Space Task Group no longer has need of her. However, this setback turns out to be temporary. All three leads are permanently reassigned to new positions by the end of the film. Dorothy, acting as supervisor of the West Computing Group, successfully advocates for herself and the "colored computers" to be assigned to the new IBMs. Near the end of the film, it is she who spares the West Computing Group a last glance before switching off the lights and closing the door behind her (01:50:30), thereby signaling that the days of segregated work places are now over.

2.3 The Space Task Group

In comparison to the West Computing Group, the interior design of the Space Task Group is considerably nicer. Even though the walls are similarly monochrome, they are glossy grey instead of concrete, interspaced with warm wooden highlights. As the first Black woman entering this realm, Katherine is a pioneer. "They never had a colored in here before, Katherine," Vivian tells her, adding "don't embarrass me" (00:16:20 – 00:16:25). Vivian leaves Katherine behind to open the door to the Space Task Group, with a box tucked under her arm and inspiring music rising in the background. The fact that Katherine opens the door herself suggests that she has gained entry on her own, being judged on her mathematical abilities which grant her access. However, the door closing behind her indicates that Katherine is the exception, and that no other Black women are expected to follow.

Hesitant and conscious of the boundaries she is crossing both in terms of race and gender, Katherine surveys a large circular office. A few steps into the room, she is mistaken for the custodian, an occupation which would constitute a more common relationship between Katherine and the present space. As a mathematician occupying one of the desks, Katherine stands out socially and visually—clothed in a colorful dress in an environment of men in white shirts (Nkrumah 2021, 1344). Ruth, the only other woman in the room, advises Katherine to "do your work, keep your head down" (00:17:25), and directs her towards the desk in the back. While this direction initially seems to place Katherine at the periphery of the group, and thus position her as an outsider, the desk she is assigned in fact stands closest to the steps that lead up to Al's office—a position which may symbolize the sympathy these characters eventually develop for one another.

Al himself occupies a superior position both socially and spatially. This is illustrated by the fact that he inhibits a separate section of the office, which is located a level above the desks of his employees. In his office, a black and white portrait of President John F. Kennedy can be seen on the walls, which accentuates his pride as American citizen. The walls of the office are glass, so that Al is able to survey his employees, which brings to mind Foucault's panopticon (Taylor and Spicer 2007, 330) and demonstrates the power that Al has over others. Both his office and the circular room hold at least one blackboard. These blackboards convey the mathematical nature of the work that is being done and are frequently crucial in demonstrating Katherine's brilliance. Furthermore, the circular room holds both a globe in its center as well as a large map of the world on its wall, which underlines the characters' awareness of their work in relation to the global context.

The constant awareness of global competition motivates Al to walk down from his office and address the room. He stops in front of Paul's desk and pointedly deposits his half-eaten sandwich in Paul's trash can, which can be seen as a gesture of dominance over Paul, especially since Al tasks the newcomer Katherine—the lowest ranking person

in the given hierarchy—with checking Paul's work in the same instance. Al takes center stage both in terms of camera movement as well as in terms of spatial position. He stands in the middle of the room with his employees around him and imprints upon them the importance of making significant progress in the space race (00:19:12). Al once more singles out Paul in asking "America's greatest engineering and scientific minds are not gonna have a problem with having their work checked, are they, Paul?" (00:20:00 – 00:20:03). Having been publicly humiliated, Paul waits until after Al has left before handing over his work to Katherine. A large portion of the file has been blacked out. Noticing her reaction, Paul informs Katherine that the numbers are "classified" and that Katherine does not have clearance (00:20:59). In this instance, Paul thus purposefully withholds information and makes it harder for Katherine to complete the task that Al has set for her, exercising his power as gatekeeper.

Throughout the day, Katherine continues working until only she and Al are left—Katherine at her desk, and Al up in his office. When Katherine moves to hand in her work, the empty room and low lights make clear that she has worked significantly overtime. She makes her way to the edge of Al's office and speaks his name, startling him from his train of thought (00:24:50). It is only after Al acknowledges her and instructs her to deposit the work by his desk that Katherine may enter his space, her movements less restricted once less people are present. She further needs permission to leave, politely asking if she may go home. Al absentmindedly agrees, seemingly distracted and unaware of time, which plays into his image of White male dedicated scientist. It also shows that Al controls the movements of his employees both in a spatial as well as a temporal sense. It is up to him to decide where they may go, and when.

This authority is mirrored in a later scene when Al calls upon his employees to work harder than the competition (00:54:32). He thanks everyone for staying behind after hours since they have received news that the Russians have once again made headway. Again, Al moves through their midst, the only one in a vest as every other man is wearing a plain white shirt. It is noticeable that he stands half a head taller than his employees, which adds to the space he occupies and underlines his air of authority. As the only women present, Katherine and Ruth stand apart in their colorful dresses. Yet they seem invisible to Al, who concludes his speech as follows:

> There's only two things you need to know going forward, one is staying here, working late, that's gonna be a fact of life. And two don't expect your paychecks to reflect the extra time it's gonna take to catch up and pass those bastards. For those of you who can't work that way I understand and thank you for what you've done. For everyone else: I suggest you call your wives, tell 'em how it's gonna be. I'll start with mine. (00:55:38 – 00:56:07)

Phone in hand, Al is shown surveying the room from his own office, as everyone present dutifully informs their family. Katherine, a dedicated worker, is shown calling what may

be presumed to be her mother. However, Katherine's dedication is called into question when Al notices her frequent absences from her desk.

2.4 The Bathroom

On the first day in her new position, Katherine politely inquires about the women's restroom; "Excuse me, may I ask where the ladies' room is?," to which Ruth replies, "Sorry, I have no idea where your bathroom is" (00:21:21 – 00:21:26). The given reply alters the question. While Katherine had asked where the ladies' bathroom was, the answer she is given specifically refers to the "colored" ladies' restrooms, which subtly excludes Katherine from using the present bathrooms in the building. Discouraged, Katherine resorts to the ladies' restroom she is familiar with—the "colored" restroom in the West Computing Group. However, that bathroom is half a mile away from the Space Task Group. It thus takes Katherine a significant amount of time to walk between the two.

Intersectionality is important in this scenario. It becomes apparent in the way in which Katherine had asked about the bathroom in terms of gender, and is given an answer which refers to race. Different aspects of her identity intersect and create interdependent disadvantages. When Al confronts her about the significant amount of time she appears to be missing from her desk every day, Katherine fiercely explains:

> There is no bathroom. There are no colored bathrooms in this building, or any building outside the west campus, which is half a mile away. Did you know that? I have to walk to Timbuktu just to relieve myself. And I can't use one of the handy bikes. Picture that, Mr. Harrison. My uniform; skirt below my knees, my heels, and a simple string of pearls, well I don't own pearls, lord knows you don't pay coloreds enough to afford pearls! (01:01:47 – 01:02:42)

In this instance, Katherine demonstrates that she is excluded from spaces due to the color of her skin. However, getting to the places she is allowed to go is made harder due to her gender. She cannot use one of the bikes to commute between the Space Task Group and the West Computing Group because it would compromise her social standing as a woman. Up to the point of this confrontation, Katherine is therefore frequently shown running across campus in her heels and working in the bathroom when she gets there.

It might be noted that based upon biographical sources such as Shetterly's book, "Katherine felt completely at home at Langley" from the very beginning and remained unaffected by policies of racial discrimination (Shetterly in Frühwirth et al. 2021, 84). It would seem that the real Katherine Johnson had comfortably inhabited the Space Task Group for several years before being made aware of the segregated bathrooms—"[b]y then, she simply refused to change her habits" (Shetterly in Frühwirth et al. 2021, 84). The assessment that Katherine Johnson felt completely "at home" at Langley underlines her sense of belonging as a woman in STEM. In the film adaptation, this sense is shattered. What results is a very different image of the woman in question, who in the film is dependent on the White male savior (Nkrumah 2021, 1347). The focus is therefore put on

Al in what may be seen as one of the most dramatic scenes within the film—the destruction of the colored ladies' bathroom sign in the West Computing Group.

Upon witnessing Katherine's outburst, Al takes it upon himself to remove the colored ladies' bathroom sign in the West Computing Group with a crowbar. The action is visually impressive, if somewhat exaggerated. Based upon the prior logic of unlabeled ladies' bathrooms, the missing sign would indicate that the bathroom is intended for White women only. However, Al's accompanying speech makes clear that instead, he is abolishing the racial segregation of bathrooms at Langley: "There you have it. No more colored restrooms. No more white restrooms. Just plain old toilets. Go wherever you damn well please. Preferably closer to your desk. Here at NASA? We all pee the same color" (01:03:58 – 01:04:26).

What is remarkable about this scene, which cements Al's role as White savior, is the control he demonstrates over a space that lies far outside his own jurisdiction, as well as the bodies that move across a whole campus. Even though the bathroom lies half a mile from Al's place of work, he does not seem to question his own authority in physically altering it. Since the space is designated for Black female workers, Al as a White male automatically assumes control over it. Moreover, he dictates how bathrooms are to be used by all employed women in the future. He points at Katherine when instructing her to use a bathroom closer to her desk. This gesture illustrates that it is not necessarily a sense for equality which drives Al, but rather a focus on efficiency in the ongoing space race. Therefore, he is arguably not motivated by a desire to support minorities within his institution, but by international competition and American masculine ideals.

2.5 The Hallway

In order to be able to support NASA in the ongoing space race, access to information is crucial for Katherine, Dorothy, and Mary. While Dorothy and Mary fight their own battles for educational materials and opportunities, Katherine too struggles with what information she is privy to and which she is excluded from on a daily basis. This struggle begins with the first mathematical report that Paul gives her, which is heavily redacted. It is Al who eventually grants Katherine access to the data. Throughout the film, repetitions of the same dynamic—Paul withholding information and Al providing it—arise. A series of exchanges takes place in the hallways around the Space Task Group. As an unfixed space where either direction can be taken, these hallways illustrate the tug-and-pull nature of the arguments. The first exchange between Katherine and Paul in the grey, glossy hallway of the Space Task Group is given below:

> **Katherine:** Mr. Stafford!
>
> **Paul:** What, Katherine?
>
> **Katherine:** If I could attend the briefings, I'd be more useful to the project.

> **Paul:** Pentagon briefings are closed-door.
>
> **Katherine:** Yes, but if we don't have the information of the changes, we can't keep up, I need those changes as they occur, as you said, it's a pinhead.
>
> **Paul:** Katherine, that's the job. You asked for this assignment. So just calculate with what you have. Or we'll find someone who can. (01:18:38 – 01:19:05)

In this argument, Katherine refers both to increased efficiency, as well as Paul's own established difficulty of the task they are facing. She thereby flatters Paul and underlines her own interest in being useful. Yet Paul cannot be swayed and denies Katherine access—additionally hinting at her dismissal from the Space Task Group if she cannot successfully operate on basis of the information she is given.

Since physical access to meetings directly translates into access to vital information, it is not surprising that Katherine persists in a following scene:

> **Katherine:** Sir. If I could attend briefings, I could stay –
>
> **Paul:** Katherine, we have been through this, it is not possible, there is no protocol for women attending.
>
> **Katherine:** There's no protocol for a man circling the earth either, sir.
>
> **Paul:** Okay, you know what, that is just the way things are. (01:20:13 – 01:20:26)

In this second exchange, Katherine once more begins to point out her improved ability to aid with the project if she could attend briefings. While this argument would likely prove effective with Al, whose dedication to winning the space race has been amply illustrated throughout the film, Paul once again remains indifferent. Instead, he resorts to pointing out the status quo of gendered relations and protocols, which he has no interest in changing.

Al eventually steps in after witnessing the frequent and increasingly heated exchanges between Katherine and Paul. Katherine petitions Al by reminding him of the upcoming launch of John Glenn, stressing that "[w]e don't have the math figured out yet" (01:21:25 – 01:21:31). Just minutes prior to this scene, Al had relayed his motivations for bringing John home safely to the Pentagon:

> Let me say first, discovery is never for the sake of discovery, gentlemen, but for the sake of human survival, and it will always come with a risk. Whoever gets there first makes the rules, that's been true of every civilization, and so I think the bigger question for this body to consider is; who do you want calling the shots in space? We have to know what's out there, senator. We have to touch the stars if only to ensure our own survival and only a man can do that. We'll get John Glenn home safely because we have to. (01:15:53 – 1:16:31)

Al is keenly focused on the importance of bringing John home, because he believes that it is a crucial step in ensuring that America wins the space race. He believes that human survival rides on a Western victory, calling upon ideals of White masculinity and dominance. It is this motivation which, shortly after, prompts him to act as gatekeeper and

open the door to Pentagon briefings for Katherine. Thus, when Paul repeats his argument concerning a lack of protocol for women attending, Al cuts in: "Okay I get that part, Paul. But within these walls, who uh, who makes the rules?" (01:21:51 – 01:22:00). Seizing her chance, Katherine is quick to supply an answer: "You sir, you are the boss. You just have to act like one. Sir" (01:21:11 – 01:22:12).

In this scene, Al directly refers to his own role as gatekeeper. This illustrates that he is aware of the authority he wields. Katherine supports him in this role because it is a gambit likely to win her what she needs: access to the briefings. Al grants it, on the condition that Katherine keeps quiet once they enter the room. Both of them interact with John in the meeting, and it is John who later requests Katherine's attendance and verification of the calculations before his launch. Once the calculations are completed and delivered, the door to the meeting closes in Katherine's face until Al opens it, provides her with a pass which signals clearance, and motions for her to join him inside (01:45:50).

2.6 The Home

It is pertinent to note who is where when important events, such as John's launch, happen. Consequently, it is worth taking a closer look at the home, where the heroines are predominantly located during game-changing developments. While much of *Hidden Figures* centers around the events at Langley, the viewer is nevertheless presented glimpses into the heroines' private lives outside of work. This includes their homes, their loved ones, and their joint Black community. Scenes set at or around the home stand in direct contrast to scenes set at Langley. They are colorful where Langley is monochrome, and lively where Langley maintains a serious atmosphere. They are of little consequence to the overall narrative and function as breaks between the tension-ridden interactions at Langley. One might note here that the private lives of Katharine, Dorothy, and Mary are the only ones the viewer sees, while all male characters are strictly shown at work.

I argue that balancing work with the private life presents the leads as more feminine and thus affirms their identities as women, next to their identities as scientists. This sense is fostered by the fact that all of them have two to three children and a heterosexual love interest. Katherine, Dorothy, and Mary are shown as operating in two spheres: the private and the public. While Al's demand of working overtime makes clear that the home may not interrupt work, work is shown interrupting the home. In their private lives, the heroines turn to the radio as the following news are relayed:

> We interrupt this musical programming with breaking news: the Soviet news agency has announced that Russian cosmonaut Juri Gagarin has become the first man in space. Gagarin completed one full orbit around the planet in one hundred and eight minutes. Stay tuned to the station for more details as they become available. (00:53:31 – 00:53:51)

The scene cuts to a historical montage of Gagarin's success and then to the men at Langley, who are viewing the news on a large screen. The only woman present is Ruth, who

stands next to Al. A similar montage of historic footage and film images of Langley is employed when the news of American progress in the space race around Gus Grissom and the Liberty Bell 7 capsule are made public, which the three heroines once again receive at home (01:15:03). Furthermore, the same format had previously been used to relate the launch of Alan Shepard (01:05:40). This shows that Katherine, Dorothy, and Mary receive the latest news regarding developments pertinent to their work at home *regardless* of whether developments are achieved by a foreign country or their own. In either case, they are not among the White men whose ambitions in the space race they passionately share.

3. Conclusion

Hidden Figures as a film creates a story, and a space, for three women who had previously received little attention for their outstanding work for NASA. The prominent setting is Langley campus, the mood anxious but excited. *Hidden Figures* champions its country of production, America—where racial and gendered inequalities, the film suggests, are things of the past (Nkrumah 2021, 1350). This paper has argued that throughout the film, intersecting inequalities can be observed in space, which has been treated as a materialization of power relations (Taylor and Spicer 2007, 327). Katherine Johnson, Dorothy Vaughan and Mary Jackson each enter new spaces throughout the film, which allow them to advance their careers. On this journey, they are hindered or aided by several gatekeepers. As the analysis has illustrated, Paul Stafford and Al Harrison in particular interact with Katherine, creating a triangular dynamic of exclusion and inclusion.

Hidden Figures is a story of exceptionalism (Nkrumah 2021, 1350): exceptional innovation, exceptional national spirit, and exceptional scientific genius that especially Katherine embodies. Yet while the film portrays a country on the move, it nevertheless focuses on "individual victories" (Cruz 2017, n.p.) especially in terms of gendered and racial equality. Little structural change is enforced within the film, with the exception of Al's heroic destruction of a bathroom sign. The doors that Katherine and Mary have walked through have likely closed behind them. It is Dorothy who makes sure that she brings her coworkers with her into new and better environments.

Through its immense success and subsequent scholarly attention, *Hidden Figures* has secured its place within American STEM-centered popular culture. At a first glance, science is brought into culture and to viewers all over the world. At a second glance, *Hidden Figures* makes visible how much of *culture* is in *science*. The film exemplifies how factors of race, gender, career stage, and the (inter)national context intersect and influence the very results that science seeks to produce. In the end, orbital spaceflight in outer space is achieved because of the changes that have occurred in the inner spaces of Langley.

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