

Virtual Geography vs Political Geography of Cyberspace in Iranian Academia

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Abstract

Since the introduction of virtual space to Iranian society, its function has always been controversial. The state remains continuously cautious about its control over the country. It has expressed concern about foreign interventions in virtual space, leading citizens to view it as a means of connecting to the global community, an opportunity for political engagement and social activism, and an accelerator of global connectivity. Therefore, 'virtual space' is a significant issue for the Iranian state and its citizens. Although there is no clear distinction between their perspectives, and each showcases varying attitudes, it can be generally stated that there exists a contrast between academic views on this topic. This divergence is explicitly illustrated by the theories presented by scholars in communication and Geography. In this paper, we will examine two distinct theories in Iranian academia regarding virtual space: spatial duality and the political geography of cyberspace. By analyzing these theories within the geography framework, we will explore the reasons behind them, their implications and impacts, and their weaknesses, ultimately arguing for adopting virtual geography as a preferable alternative to the political geography of cyberspace.

Keywords: Virtual and Cyberspace, Virtual Geography, Dual Spatiality, Geopolitics, and Representational Geopolitics.

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1. Introduction

While the Internet is described as an arena for informational connectivity, enhancing knowledge, distributing power, and bolstering democracy (Fan & Zhang,2022), the facts indicate that digital divides and connectivity interruptions are significant (Warf,2022:21). Economic and technological differences create some of these inequalities (Pick and Sarakar,2022:29-30), while other barriers stem from political, social, and cultural preferences (Zhang,2022). This indicates a gap between the intended and actual purposes of the Internet (Gibson,2022). Surprisingly, rather than diminishing the digital divide in some regions and countries, the emphasis is on widening it. In other words, the digital divide and poor Internet access may be intentionally created as policy (Deibert,2008). This has sparked extensive discussion in academic and public spheres. Part of the debate is rooted in geography. A particularly intriguing issue is the understanding of this subject among many Iranian geographers, which contradicts current geographical findings. For instance, while most scholars are concerned about the reasons, politics, impacts, and negative effects of the 'digital divide' (Gran et al.,2021; Warf,2022; Pick and Sarakar,2022), some Iranian geographers advocate for the 'act of power' (Hafeznia,2011) on the Internet and have even proposed ideas for regulating online activities (Badiei Azandahi et al.,2013). These political geographers argue that the Internet should be controlled and delineated as a territory (Hafeznia,2011; Badiei Azandahi et al.,2013). This notion is supported mainly by interpretations that rely on traditional political geography's approach to space (Hafeznia,2011). In political geography, global discussions are intertwined with the concept of "the state's right of territorial sovereignty." However, it seems this idea was formed without considering the nature of the Internet and the challenges that the concept of territorial sovereignty faces in reality (Mueller,2020). These challenges were acknowledged by another group of Iranian geographers who employed critical geopolitics approaches to space in Iran (Mojtahedzadeh,2012). They rejected traditionalist discussions and emphasized that the Internet could be defined as a geopolitical concept rather than merely a political geography phenomenon, as it is impossible to separate its content along geographical borders.

While traditional geography's approaches to the internet-initiated discussion in the scientific arena were absent, its critics were present. Therefore, as critical geographers, we must take the next step and present our arguments

regarding the geographical nature of the Internet. Hence, we will examine the foundations of traditional geography's approach to the Internet in Iran, highlight its weaknesses in theoretical debates, and argue why traditional geographers' views are insufficient and how they have misunderstood the real and the virtual relationship. In doing so, we will challenge their discussions of the Internet and expose their significant errors in applying concepts of political geography to it. Through this, we will introduce our perspective from a critical geopolitics perspective. The key distinction between these opposing approaches lies in the distinction between virtual space and cyberspace. The former aligns with critical geopolitics and human geography, while the latter is rooted in traditional principles of political geography. This debate will illustrate the differences between virtual and cyber realms, presenting our approach with more geographical implications for virtual geography.

2. Theoretical principles

In the early years of the Internet, creating a space that could liberate people from government intervention gained popularity. For instance, John Perry Barlow (1996) states in "A Declaration of the Independence of Cyberspace" that "Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather. " Although numerous Internet activists embraced Barlow's manifesto, it was naive to expect that the Internet would remain a libertarian island in a world of conflicting political objectives" (Warf & Grimes,1997:261). Since then, governments have been wary of what they term 'misuse of the Internet' and have sought to restrict inappropriate content, such as child pornography (Warf,2022:21). However, critics have warned that this might expand to encompass other issues, such as politics and information, which could interrupt free access to information by the state (Gran et al.,2021). While there was a significant and controversial debate over access to information, the issue of virtual governance remained in the shadows. Nevertheless, this does not imply that states were uninterested in extending their authority from the physical realm into virtual space (Zimmerman-Janschitz,2022:75-76). Due to technical, legal, and international considerations, most states prefer to adopt an 'observant' role in virtual space rather than extending their 'territorial sovereignty' into this realm. Historically, as Jonatan Taylor (1997:172) and Barney Warf (2013)

noted, the ‘emergence of the virtual world’ acts as an “accelerator of interconnection in real-time.” Therefore, any attempt to limit access to the Internet cannot be merely viewed as boundary-setting but rather as ‘digital separation.’

Here, we use the term ‘virtual’ instead of ‘cyber’ in our argument. We consider the concept of ‘virtual geography’ to be part of the geographies of media, which are the spaces individuals create to generate, exchange, publish, share, and use data, information, and online content for their benefit. Furthermore, virtual geographies lack traditional geographic limitations, such as distance, restrictions, and borders imposed by time and space (Warf,2013). Thus, virtual space can be seen as a borderless entity. However, the absence of borders does not equate to absolute freedom, as each user is a citizen or resident of a country. Therefore, their activities in virtual spaces can be influenced or restricted by the internal laws of an independent state and even by the policies of other countries (Delerue,2020). Additionally, human activities in the virtual realm can create political, economic, social, and public effects that extend across territorial borders and fall within governments' interests (Kaufman,2022). Consequently, despite Barlow’s (1996) desires and utopian visions for an “end of geography” (Bethlehem,2014), geography continues to influence virtual space, turning it into a battleground for geopolitical conflicts (Douzet et al.,2023).

According to Barney Warf (2013), despite advances in communication and technology, geography retains its significance for the roles of space, distance, and government policy. This implies that the utopian vision of a free, barrier-free internet remains a distant aspiration. Therefore, we must consider “spatializing the internet. “The existing geographical literature offers a valuable method for spatializing the internet, emphasizing its rootedness in social relations and the evolving geographic dynamics of proximity. This is a necessary counter to many prevailing utopian and technocratic interpretations, such as those proclaiming the supposed "death of distance" (Warf, 2013:2).

Indeed, the creation of a virtual world free of governmental intervention is a common interest for most people. Nonetheless, states demonstrated that this idea challenged their efforts to maintain “digital sovereignty” (Pohle & Thiel, 2020) in their own hands. The most common concern for nation-states is that ‘actions on the web can influence society, state, and country, and because of

that, a state, as an independent entity that holds ‘the right of territorial sovereignty,’ can secure the right to intervene on the internet for itself (Maréchal,2017). This issue, like the rest of the world, is considered in Iran. From the perspective of cartography and human geography, we have multiple virtual geographies rather than a singular one. Various virtual geographies overlap due to differences in how they function, what content they host, and the activities they support on the Internet (Kühne,2023). These functions pertain to cultural, social, political, and economic geography (Hodge & Kristín Hallgrímsdóttir,2021; Faxon,2022). Consequently, it is understood that we possess diverse virtual geographies akin to real geographies. These diversities manifest in virtual content, can be located anywhere, can include any material, and can be crafted by anyone engaging in virtual activities. These different geographies carry local and global connotations and connections, making it impossible to separate them geographically. Furthermore, the dynamic, interactive nature of information on the Internet prevents the balkanization of virtual geographies. Therefore, despite certain characteristics being native to specific territories, we cannot delineate territorial borders, boundaries, or frontiers on the Internet. However, this limitation does not imply that states lack power in virtual geography, as the characteristics of the Internet have transformed it into a competitive domain for influence and power practice (Qiu et al.,2022). This aspect indicates that virtual space possesses geopolitical functions, and thus, the Internet has emerged as a battleground for competition among national and non-national actors over knowledge and power (O’Hara & Hall,2021). Theoretically, virtual geography may exhibit geopolitical characteristics rather than strict political geography.

3. Methodology

In this research, we employ a post-structural methodology. This methodology was introduced to geography in the late 1980s and 1990s. Post-structural methodology challenges traditional approaches by questioning the fixed meanings and structures within geographic inquiry (Gregory,1994; Philo, 1991). It emphasizes the fluidity and ambiguity of meanings, arguing that concepts such as space, place, and nature are socially constructed and subject to continuous reinterpretation (Gregory,1994). This approach critiques the power relations that determine what is considered natural or self-evident and invites us to analyze the structures that shape the production and maintenance

of meanings (Philo,1991). Thus, post-structuralism offers a dynamic lens for understanding the complexities of every subject that contains geographical aspects (Gregory,1994).

Post-structuralist geography also incorporates methods such as deconstruction and genealogy to reveal the contextual and uncertain nature of conceptual systems (Woodward et al.,2009). It challenges binary forms like objectivity/subjectivity and nature/culture, highlighting how these binaries are socially constructed and maintained through power relations (Woodward et al.,2009). As post-structuralist geographers, we can explore how certain geographic concepts become central to inquiry by focusing on the interplay between power and knowledge while others remain marginalized (Woodward et al.,2009). Therefore, post-structural methodology assists us in conducting a wide range of critical inquiries to uncover the socio-political processes that shape our understanding of geographical subjects (Woodward et al., 2009). By utilizing post-structural methodology, we will examine how traditional approaches in geography produce theories that do not accommodate the flexibility and diversity of virtual geographies. Additionally, this methodology will guide us in discussing the need for new approaches to virtual geographies to understand their dynamics better.

4. Findings

4-1. Approaches toward the Internet in Iran

Saeid Reza Ameli is a professor of communication at Tehran University and is considered one of the influential figures in Iran in the field of Internet geography. His ideas and actions merit consideration, given his discussions of the Internet. He introduced the notion that human life in the modern era should be viewed through a “dual spatiality approach” (Ameli,2011a). According to him, as humans engage in real or virtual environments, their actions produce a wide range of effects. Consequently, human actions should always align with the laws and regulations of the state. Within this framework, individuals’ activities in cyberspace embody this characteristic (Ameli,2011b:30). Therefore, individuals are required to be law-abiding citizens on the Internet, while states (specifically Iran, from his perspective) must achieve “e-Readiness” (Ameli,2011b:13). This readiness is established through both technical and legal measures, requiring active state involvement in both areas to regulate individual activities online. Ameli justifies “the Internet censorship by the state” and argues that policymaking for the Internet

“should consider users” (Ameli,2011b:51 and 357). He posits that both positive and negative approaches are beneficial for policymaking and observes that “while a strong online presence does not imply the censorship of inappropriate spaces, content, and interactions, these policies must be considered” (Ameli,2011a:509). In his “dual spatiality approach” to the Internet, he notes that, despite the global connectivity of virtual spaces, virtual geography coexists with physical geography. Thus, a state's jurisdiction in a virtual realm is governed by the laws that govern the physical domain (Ameli, 2011a:383). In other words, he underscores the principle of ‘national sovereignty’ and advocates for “an international convention to delineate national and shared cyberspaces” (Ameli,2011a:509). However, how a ‘virtual geography’ could be divided into multiple ‘digital entities’, each governed by a different nation-state, remains ambiguous. Additionally, why did he not differentiate between the virtual and cyber domains? To answer these questions, we must focus on geographical discussions.

Among geographers, Mohammad Reza Hafeznia (2011) and Pirouz Mojtahedzadeh (2012) presented differing perspectives on virtual space. While both emphasized that the emergence of the information age does not signify the death of geography, their discussions contradict one another. Hafeznia (2011:108) stated that a “sense of collective and distinguishable identity from others, national interests, and the development of nationalism are building borders. Therefore, the accountability of political and cyber borders is enhanced. ” In other words, Hafeznia coined the term “political geography of cyberspace” and even published a book with the same title. In his controversial book, * Political Geography of Cyberspace* (2011), Hafeznia emphasized the term “cyber’ instead of “virtual” for his Farsi-speaking audience. Through this, he argued that cyberspace has borders, much like physical space. Therefore, a state “has the exclusive right to sovereign cyberspace, control interactions, and restrict any unwanted actions and events against its will.” In his discussion on the concept of borders in cyberspace, he identified three features of cyber borders: “(1) in cyberspace, borders are cybernetic; (2) they reflect states’ identity and sovereignty in physical space; and (3) they add meaning to the spatial entities of countries” (Hafeznia,2011:110-111). Thus, “cyberspace is a reflection of physical space, and through this, national sovereignty and governmental ruling is legal for both” (Hafeznia,2011:157). In contrast, Mojtahedzadeh (2012) rejected

Hafeznia's notion and argued that there are no borders while we can consider geographical characteristics for virtual space. Therefore, given humanity's global connectivity in virtual space, we might conclude that there are no distinct geographical areas in the virtual world (Mojtahedzadeh,2012).

Among these, Hafeznia's approach is widely accepted among Iranian scholars. This seems rooted in the country's popularity of traditional geography, which aligns with conservative discourse. The absence of trust in social media (Nami et al.,2016), the emphasis on governmental security (Kamran Destjerdi & Mir Mohammadi, 2014), the necessity of establishing borders in cyberspace (Badiei Azandahi et al.,2013), and the justification of Internet filtering (Afzali et al.,2013) are among these factors. Afzali et al. (2013: 228) defined Internet censorship as a legal act establishing cyberspace boundaries. They argued that while governments must protect the nation from physical threats, they are also responsible for shielding citizens from inappropriate online activities. Although they presented an extensive argument about what they consider inappropriate activities, they did not offer insight into how a state can distinguish them from appropriate activities. Additionally, their discussion primarily centers around the state, neglecting citizens' perspectives on "filtering. " In this context, Afzali and his co-authors emphasized that "Internet filtering could be used for national and governmental interests" and concluded that it is crucial to establish borders in cyberspace just as states did in physical space" (Afzali et al,229-235).

Moreover, they misunderstood both 'cyber' and 'virtual'. As a result, they failed to provide a reasonable discussion about 'geography in virtual space, consequently exploring the topic with an emphasis on political geography. Our assessment indicates that Hafeznia (2011), Afzali et al. (2013), and others who align with Hafeznia's views may overlook the Internet's geographical and geopolitical dimensions by focusing solely on political geography. While the concept of cyber refers to an electronic medium for communication (Adams & Warf,2022), the virtual is recognized as both an individualistic and inseparable experience on the Internet (Kühne,2023), correlating with collective experiences on both local and global scales. Moreover, geographies on the Internet are diverse and overlapping, making it impossible to establish borders based on territory and content. We acknowledge that Hafeznia, Ameli, and others mentioned here are cautious about individual activities, information exchange, and their impacts on nations and states; however, their

focus on establishing borders on the Internet suggests they may underestimate the characteristics of virtual space. When they emphasize the importance of “bordering on the internet” (Badiei Azandahi et al.,2013; Afzali et al.,2013), they likely intend to influence access to content; however, their prescriptions align with Ameli's (2011a) advocacy for restricting the medium. Another misconception is the notion of a “Political Geography of Cyberspace” (Hafeznia,2013), as no separable geographies exist on the Internet.

On the Internet, the distinctions between political and non-political virtual agoras are blurred; content can be multi-functional; realms overlap, and users and information are in constant motion. With just a brief statement, any content on the Internet could be considered political. So, how can one determine what is political and what is not? Individuals can engage in sports, music, or entertainment in the same space where they practice politics. This logic extends into virtual space. Space serves as an arena for people to “practice and do politics.” Thus, from a geographical perspective, it is more appropriate to use “space of politics” (Fourcade et al., 2016) instead of political space. Therefore, attaching a 'political subject' to 'virtual space' diminishes its function to a single purpose and creates conditions that can lead to politically motivated behavior that is susceptible to misuse. Additionally, the complexity, integrity, coherence, and accessibility of virtual space give rise to numerous overlapping and interconnected geographies that relate to virtual space and span diverse nations and regions. When attempting to define it within the framework of “political geography” (Hafeznia,2013), individuals often disassemble it into distinct entities that are impractical both theoretically and practically. By applying the characteristics of political geography to virtual space, it must be recognized that there are multiple ‘virtual spaces,’ each governed by different nation-states. Consequently, the internet risks losing its *raison d'être* and could collapse. This misstep has manifested in Iran by categorizing virtual space within territorial concepts. This justification allowed for a range of restrictive actions on the Internet while disregarding geopolitical realities. The most paradoxical aspect of their efforts is that they express concern about the policies of other states regarding the Internet but fail to resolve whether it is legitimate to claim a right to a nation-state while being apprehensive of another. This is the primary issue with their biased approach.

4-2. From Language toward Geography

Although Mojtahedzadeh (2011) argued that “there are no borders in virtual space, and thus the concept of ‘Political Geography of Cyberspace’ is flawed, ” both Ameli and Hafeznia overlooked this debate. They attached physical characteristics to the virtual world and misapplied the term 'cyber'. However, whether they intentionally use cyberspace is unclear, as neither discussed the distinctions between cyber and virtual. They use the same term in Farsi (مجازی) as a synonym for both cyber and virtual. The concept of ‘Majazi’ (مجازی), which means ‘virtual,’ has significant roots in Iranian Philosophy. Many Iranian scientists and poets have employed Majaz (virtuality), Majazi (virtual), and related concepts to explore various subjects. For example, Omar Khayyam (1048-1131), in one of his Quartets, stated:

“You were asking what this ‘image of virtual’ is? If I want to explain, it has a long story. It is an image created by a sea, and then, it opened itself toward the deep side of that sea” (Khayyam, Quartet No.42).

Khayyam conducted extensive scientific research in various fields, including mathematics, physics, metaphysics, astronomy, geology, literature, music, and philosophy. He was a polymath (Hakim in Persian) who articulated his interpretations and approaches to the world in poetic form. In his poems, Khayyam sought to distinguish between reality and imagination and explore the relationship between the ‘virtual’ and the ‘real’. Additionally, he differentiated the tools for understanding the virtual and imagination from the concepts themselves. More specifically, he employed these ideas to illustrate the reality of the world:

“This is a Ferris wheel [world] in which we are astonished. Now, consider the Phantasmagoria as a simulation of that. The sun is the light, and the world is the screen. Thus, we are the images circling there” (Khayyam, Quartet No.105).

In his approach, phantasmagoria is neither considered real nor virtual. Furthermore, neither truth nor imagination can be seen as a merged existence with it. Therefore, phantasmagoria serves as a medium in Iranian literature to convey meaning, concepts, ideas, or statements and is not equivalent to the virtual or the image. They are differentiated. The differences between real and virtual in Iranian epistemology, culture, and literature have always been significant, such that Rumi (1207-1273) poetically warned against it:

“There is a distinction between real and virtual

Does Sarame¹ open a [closed] eye?" (Rumi, part 131)

In our view, one of the primary reasons for this is the lack of a philosophical approach. This lack has led to neglect of geopolitical realities and the broader context. Within a philosophical framework, there is the opportunity to view the complete facts and evaluate each part of a phenomenon in relation to one another. This deficiency is why these scholars failed to represent the truth of virtual geography accurately and conflated it with an exaggerated focus on the debates of political geography.

As we discussed, in the traditional Iranian view of the Internet, it is seen merely as a component of the state's political geography. Simultaneously, the importance of virtuality and imagination is often overlooked. Imagination and virtuality enhance our understanding of the world. Furthermore, from our earlier discussions, misinterpreting virtual space can reduce virtual geography to a mere technical issue of meaning and function, thereby overlooking its role in daily life and geographical experiences. Cyberspace has physical attributes, as evidenced by essential infrastructure such as terminals, electronic pathways, and transmitting devices that can be traced within geographical spaces. Michael Batty (1997:37) stated, "We define cyberspace—the space within computers, cyberspace—the use of computers to communicate, and cyberplace—the infrastructure of the digital world, as key components of what Castells refers to as real virtuality." Although this concept seems to have been discussed and accepted in Iran, no one references Batty's ideas and works; instead, they emphasize the importance and capability of bordering. For example, advocates of cyberspace's political geography highlight bordering and accepting disconnection and blackout as strategies for securing space (i.e. Hafeznia,2013; Badiiei Azandahi et al., 2013). In contrast, Batty (1997) never addressed bordering; his discussion underlined that it is a realm of connectivity. In other words, the viewpoints of Iranian traditional political geographers may differ, even in their perceptions of cyberspace.

It has been perceived that the Internet is a foreign phenomenon rather than an international realm. Although the Iranian state has expressed its skepticism toward the Internet since its introduction to Iranian society, blocking various websites before 2009, it began a program post- 2009 events aimed at restricting access to international media online. Social media platforms have

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gained popularity among younger generations, leading to social activities deeply embedded in these platforms for sharing information, videos, and content (Parchami,2009). However, the events of 2009 demonstrated that Iranian society heavily depended on virtual spaces (Ansari,2012). Viewed through an anti-geopolitical lens (Holland,2020), civil activities, similar to other geopolitical actions, hinge on “practice and representation” (Gilmartin & Kofman,2004), which reflects the reality for Iranian citizens online. In the absence of diverse media voices in Iran, individuals sought to engage online, where pluralism is greater than in traditional Iranian media, facilitating their virtual presence on a global stage. This movement preserved its essence through geopolitical codes (Flint,2006), defined by ‘anti-geopolitical representations of civic ideas, aspirations (such as change), and social symbols. In Iran, virtual spaces can be identified as a space of politics (Fourcade et al.,2016) for citizens and the state. While the state has sought to diminish the influence of virtual spaces, the emergence of new social media platforms such as Telegram and Instagram has created new opportunities for citizens to engage in politics and express different perspectives on their sociopolitical environment. From these discussions, it is evident that the “geographies of media” (Adams,2009) in Iran are categorized into two distinct entities: (1) a spectrum of official media sources controlled by the state and (2) social media and the Internet, which lie outside the state's grasp and have become subjects of bordering. As a result, when scholars emphasize the significance of bordering the Internet, they may endorse state-centric perspectives; conversely, this topic warrants a scientific discussion.

Ian G.R. Shaw and Barney Warf (2009:1332) used a “representational approach by considering ‘affect’ as a precognitive force which disrupts and delights the player with reactions ranging from fear to joy.” We can use this attitude to perceive the virtual environment as an arena for experiencing a new world and transcending space-time barriers. Meanwhile, the struggle to use the internet for communication and to experience un-lived spaces indicates that delineating virtual geography is about keeping the interior at a distance from the outside. Intentions for bordering virtual space are geopolitical actions, although the reasons for articulating political geography are not. Simultaneously, every disagreement will be a geopolitical act as well. They challenged masculine power relations and geopolitical structures, and overcame boundaries, restrictions, and even the geopolitical narratives

generated for real and virtual spaces.

5. Conclusion

The story of virtual space differs from that of physical geography due to its complex, diverse functions, characteristics, and geographies. Users' individualism and collective actions across various places, connected virtual spaces, easy access, social interactions, diversity of virtual geographies, and their overlaps on the Internet have created an anti-territorial virtual arena. This indicates that while there are many geographies on the Internet, they cannot be separated. Therefore, these geographies have no borders, making it impossible to extend physical boundaries. Although states still possess considerable power to act in virtual space and can monitor and observe citizens more than in real territories, the flexibility and complexity of the Internet limit the expansion of territorial sovereignty.

This complexity is significant as a state seeks to extend its power from real to virtual space for geopolitical reasons. The prevailing discourse asserts that virtual space extends real space, and a state holds an exclusive right to expand its national sovereignty. Some scholars have attempted to define territorial characteristics for virtual space to support this notion in Iran. In this context, the physical connotation of the term cyberspace is often used to frame discussions. The introduction of the Political Geography of Cyberspace and Dual Spatiality, coined by Mohammad Reza Hafeznia and Saeid Reza Ameli, respectively, illustrates that this perspective is prominent. Their argument is primarily grounded in three concepts: sovereignty, spatiality, and bordering, which underscore the necessity of safeguarding internal security from external threats. Although some of their assertions are reasonable, critical discussions seem to be overlooked. They ignored the distinction between cyber and virtual, which may have led to the neglect of the concept of Virtual Geography. In dialogues concerning cyberspace's dual spatiality and political geography, the nature of virtual geography remains unaddressed, and the significance of its social aspects is overlooked. In light of these interpretations, both bordering and restricting have been ascribed by these scholars and their adherents. Another core issue absent from their discussions is the importance of time-space in virtual geography, despite the substantial evidence, literature, and facts that challenge the validity of "dual spatiality" and "political geography of cyberspace." Cyber refers mainly to cybernetic infrastructures and the technical dimensions of the Internet, while virtual

pertains directly to human activities conducted online. Furthermore, the notion of “virtual” has humanistic roots that, historically and philosophically, delineate clear boundaries between “reality” and “virtuality,” thereby differentiating between physical geography and virtual geographies. Nevertheless, traditional Iranian geographers have overlooked the introduction of the concept of ‘virtual geography’ and its associated discussions. Consequently, the potential of virtual geography to transcend time-space barriers remains ignored.

Our discussion indicates that there is no possibility of considering virtual space as a cyber entity or articulating the factors of political geography. Virtual space is a realm of connectivity, interaction, multidimensional exchange, and an opportunity to transcend space-time barriers. In the case of Iran, concepts such as the dual spatiality approach, bordering virtual (cyber) space, integrating the characteristics of political geography into virtual space, and extending territorial sovereignty into virtual realms justify interventions. This suggests a dual geography in which freedom and conflict are controlled. On one side, the state strives to maintain control over physical geography and expand it into virtual geography; on the other, citizens express desires that may contradict the state. This conflict has become pronounced since the introduction of the Internet, particularly through social media. Social, political, and spatial movements underscore this contradiction. In other words, if we examine the dialectic of state and nation in Iran, we can assert that contradiction is the predominant feature of virtual geography, and earlier discussions by Iranian geographers have somewhat underestimated this aspect.

In our view, virtual space can be regarded as a reflection of physical space rather than a proportion or continuity of it. While space-time limitations constrain everything in the real world, virtual space enables the creation of diverse geographies that overcome the constraints of physical geography. This surprisingly explains the global participation on the Internet, where closed political systems like China, North Korea, and Cuba, which block all or part of access, still manage to maintain a presence. Although each state's presence in virtual space and superiority in cyber capabilities can generate new interests, many may conclude that these interests will be realized in a unified space rather than separate spaces due to technical, economic, political, and, most importantly, geopolitical factors. Thus, any absence or barrier in

virtual space can significantly harm public and national interests. In other words, when we consider the relationship between cyber and virtual, the significance of one should enhance the other rather than impose restrictions. In this context, there is no logical reason to treat cyber and virtual as the same issue or as extensions of the implications of ‘Cyber’ into ‘Virtual’.

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References

1. Adams, Paul. C; Warf, Barney. (2022). Media Geographies: An introduction. In: Adams, Paul, C and Warf, Barney (eds), *Routledge Handbook of Media Geographies*. London: Routledge. Pp. 1-16.
2. Adams, Paul. C. (2009). *Geographies of Media and Communication*. London: Wiley-Blackwell.
3. Afzali, Rasool; Ghalibaf, Mohammad Bagher; Ahmadi Firoozjaei, Meisam. (2013). Explanation of the concept of borders' transformation in political virtual space. *Researches in Human Geography*. Vol 45. No 1. Pp. 217-238. **[In Perian]**
4. Ameli, Saeid Reza. (2011a). Dual spatiality approach Toward damages, crimes laws and policies of virtual space. Tehran: Amir Kabir. **[In Perian]**
5. Ameli, Saeid Reza. (2011b). Comparative studies of e-Readiness: An strategy for progress of electronic space. Tehran: Amir Kabir. **[In Perian]**
6. Ansari, Amin. (2012). The role of social media in Iran's Green Movement (2009-2012). *Global Media Journal-Australian Edition*. Vol 6. No 2. Pp.1-6.
7. Badii Azandahi, Marjan; Ahmadi Firoozjaei, Meisam; Ansarizadeh, Salman. (2013). Explanation of 'border' in political-virtual space of Iran. *Geography*. Vol 11. No 36. Pp. 291-313. **[In Perian]**
8. Barlow, John Perry. (2016). A Declaration of the Independence of Cyberspace. Electronic Frontier Foundation. (February 8th 1996). In access at: <https://www.eff.org/cyberspace-independence>. Retrieved in 23 March 2023.
9. Batty, Michael. (1997). *Virtual Geography*. Future. Vol 29. Issues 4-5. Pp. 337-352.
10. Bethlehem, Daniel. (2014). The end of geography: the changing nature of the international system and the challenge to international law. *European Journal of International Law*. Vol 25. No 1. Pp. 9-24.
11. Deibert, Ronald J. (2008). The geopolitics of internet control: Censorship, sovereignty, and cyberspace. *Routledge handbook of Internet politics*. Routledge. Pp 323-336.
12. Delerue, François. (2020). *Cyber operations and international law*. Vol. 146. Cambridge: Cambridge University Press.
13. Douzet, Frédéric; et al. (2023). Digital routes and borders in the Middle East: the geopolitical underpinnings of Internet connectivity. *Territory, Politics, Governance*. 11(6). Pp. 1059-1080.
14. Fan, Ziteng; Zhang, Nan. (2022). Disconnected citizens in the social media age: unpacking the effects of digital exclusion on satisfaction with democracy in Europe. *Information Technology & People*. Vol 35. No 5. Pp. 1652-1673.
15. Faxon, Hilary Oliva. (2022). Welcome to the digital village: networking geographies of agrarian change. *Annals of the American Association of*

- Geographers. 112(7). Pp. 2096-2110.
16. Flint, Colin. (2006). Introduction to geopolitics. London: Routledge.
 17. Fourcade, Marion; Lande, Vrian; and Schofer, Evan. (2016). Political space and the space of polities: Doing politics across nations. *Poetics*. Vol 55. Pp. 1-18. <https://doi.org/10.1016/j.poetic.2015.12.002>.
 18. Gibson, Kerry. (2022). Bridging the digital divide: Reflections on using WhatsApp instant messenger interviews in youth research. *Qualitative research in psychology*. Vol 19. No 3. Pp. 611-631.
 19. Gilmartin, Mary; Kogman, Eleonore. (2004). Critically Feminist Geopolitics. In Staeheli, Lynn. A; Kofman, Eleonore; and Peake, Linda (Editors). *Mapping Women, Making politics*. London: Routledge.
 20. Gran, Anne-Britt; Booth, Peter; Bucher, Taina. (2021). To be or not to be algorithm aware: a question of a new digital divide? *Information, Communication & Society*. Vol 24.No 12. Pp. 1779-1796.
 21. Gregory, Derek. (1994). *Geographical Imaginations*. London: Blackwell.
 22. Hafeznia, Mohammad Reza. (2011). *Political geography of cyberspace*. Tehran: SAMT. **[In Perian]**
 23. Hafeznia, Mohammad Reza. (2013). *Political geography of Iran*. Tehran: SAMT. **[In Perian]**
 24. Hodge, Edwin; Kristín Hallgrímsdóttir, Helga. (2021). Networks of hate: the alt-right, “troll culture, and the cultural geography of social movement spaces online. *British Columbia’s Borders in Globalization*. London: Routledge. Paper. 102-119.
 25. Holland, Edward C. (2020). The anti-geopolitical cinematic eye: Documentary film and critical geopolitics. *Geography Compass*. Vol 14. No 10.: e12536.
 26. Kamran Dastjerdi, Hasan; MirMohammdi, Zahra. (2014). Cyberspace and new definitions of political geography. *Geography*. Vol 12. No 43. Pp. 143-156. [in Persian].
 27. Khayyam, Omar. (2003). *Rubaiyat of Omar Khayyam*. Tehran: Markaz. **[In Perian]**
 28. Kühne, Olaf. (2023). Potentials of the three spaces theory for understandings of cartography, virtual realities, and augmented spaces. *KN–Journal of Cartography and Geographic Information*. 71(4). Pp. 297-305.
 29. Maréchal, Nathalie. (2017). Networked authoritarianism and the geopolitics of information: Understanding Russian Internet policy. *Media and Communication*. Vol 5. No 1. Pp. 29-41.
 30. Mojtahedzadeh, Pirouz. (2011). *Speech about concepts and discourses in modern political geography and geopolitics*. Tehran: Tarbiat Modares University. [unpublished].
 31. Mojtahedzadeh, Pirouz. (2012). *Geopolitics of Virtual Space: A philosophical*

- analysis contrasting discussions on classical and modern geopolitics. Tehran: Islamic Azad university. **[In Perian]**
32. Mueller, Milton L. (2020). Against Sovereignty in Cyberspace, *International Studies Review*. Volume 22. Issue 4. Pp. 779–801.
 33. Nami, Mohammad Hasan; Hoseini, Seyed Amir; Karimi, Aram. (2016). Assessment and analysis of cyberspace’s impact on geographical space and detecting relation between security and trust of users toward cyberspace in regard to time of the Internet usage. *Sarzamin quarterly*. Vol 14. No 53. Pp. 53-69. **[In Perian]**
 34. O'Hara, Kieron; Hall, Wendy. (2021). *Four internets: Data, geopolitics, and the governance of cyberspace*. Oxford: Oxford University Press.
 35. Parchami, Lida. (2009). IRGC’s cyber war against corruption or “Soft Threats”. October 1st 2009. In access at: http://www1.rfi.fr/actufa/articles/118/article_8694.asp. Retrieved in 14 March 2023. **[In Perian]**
 36. Philo, Chris. (1991). *New Words, New Worlds: Reconceptualising Social and Cultural Geography*. In Derek Gregory and Rex Walford (Eds.). *Horizons in Human Geography*. London: Macmillan. Pp. 50-67.
 37. Pick, James B; Sarkar, Aviji. (2022). *Digital Divides*. Pp. 29-48.
 38. Pohle, Julia; Thiel, Thorsten. (2020). *Digital sovereignty*. In access at: <https://www.econstor.eu/bitstream/10419/233109/1/1755313594.pdf>. Retrieved in 17 April 2023.
 39. Qiu, Jack Linchuan; Yu, Peter K; Oreglia, Elisa. (2022). A new approach to the geopolitics of Chinese internets. *Information, Communication & Society*. 25(16). Pp. 2335-2341.
 40. Rumi, Jalāl al-Dīn Muḥammad. (2023). *Masnavi-ye-Ma'navi*. Tehran: Elmi and Farhangi Press. **[In Perian]**
 41. Shaw, Ian Graham Ronald; Barney, Warf. (2009). Worlds of affect: virtual geographies of video games. *Environment and planning*. 41. Pp. 1332-1343.
 42. Taylor, Jonathan. (1997). The emerging geographies of virtual worlds. *Geographical Review*. Vol 87. No 2. Pp. 172-192.
 43. Warf, Barney; Grimes. (1997). Counterhegemonic Discourses and the Internet. *Geographical Review*. Vol 87. No 2. Pp. 259-274.
 44. Warf, Barney. (2013). *Global Geographies of the Internet*. New York and London: Springer.
 45. Warf, Barney. (2022). Internet censorship: Shaping the world’s access to cyberspace. In: Adams, Paul, C and Warf, Barney (eds), *Routledge Handbook of Media Geographies*. London: Routledge. Pp. 19-28.
 46. Woodward, Keith; Dixon, Deborah. P; Jones, John Paul. (2009). Poststructuralism/Poststructuralist Geographies. In *International Encyclopedia of Human Geography*. London: Elsevier. Pp. 727-736.

47. Zhang, Xiang. (2022). The Internet media in China. In: Adams, Paul, C and Warf, Barney (eds), *Routledge Handbook of Media Geographies*. London: Routledge. Pp. 60-73.
48. Zimmerman-Janschitz, Susane. (2022). Digital media and persons with visual impairment or blindness. In: Adams, Paul, C and Warf, Barney (eds), *Routledge Handbook of Media Geographies*. London: Routledge. Pp. 74-92.

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