Wargames Resurgent:

The Hyperrealities of Military Gaming from Recruitment to Rehabilitation

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Abstract

While games are commonly viewed as frivolous fun, their rapid proliferation across the US defense establishment compels us to think again. Spanning spheres as diverse as total immersion training, near-peer/cyber conflict, and future force strategies, a gaming renaissance is currently underway across the US military. Surprisingly given International Relations' (IR) interest in the production and projection of military power, the discipline has neglected to engage with this revival. This article argues that hyperreal games – that is, games that produce realities – play an increasingly important role in the attraction, production, management, and recovery of warfighters. Drawing upon one hundred hours of interviews undertaken with US military games designers, trainers, trainees, and veterans between 2017 and 2019, the article documents first-hand experiences of hyperreal gaming in warfighter recruitment, training, deployment, and rehabilitation. The core argument developed is that unlike simulations, which model *scenarios*, games are productive of *people*, values, and identity. If it is to understand games' use as tool of warfighter subjectification, the article argues, IR must renew its focus on military gaming disaggregated from the broader hyperrealities of modelling, simulation, and exercises with which it has hitherto been conflated.

Introduction

In light of the transformative effects of the digital revolution, in recent years scholars in International Relations (IR) and associated fields have made the case for the importance of popular culture in global

politics.[1] Variously focused on movies and television,[2] novels and stories,[3] art and aesthetics,[4] fashion,[5] and music,[6] the existing literature has traced the manifold impacts of popular culture on the global political landscape. Notwithstanding these contributions, as J. Furman Daniel III and Paul Musgrave argue, mainstream IR continues to downplay its importance. As they put it, 'few scholars will go so far as to publicly scoff at work on popular culture and international relations, but the absence of discussion about films, novels, television, and video games in mainstream studies speaks volumes' (2017, 503). This neglect is in part explained by the continuing state-centrism of the field. Critical traditions as diverse as feminism, postcolonialism, poststructuralism, and various Marxian analyses have long argued for the importance of other forces, actors, and issues in the global arena. Despite these interventions, and recent calls to take seriously everyday global politics, the mainstream continues to reify the state, and inter-state relations, as the primary business of the field.

Among the topics side-lined by this reification, games and play are treated as singularly unserious. Framed as frivolous, apolitical, and even, in more philosophical terms, the other of Western metaphysics (Hirst 2019; Nagel 2002), games are often ranked below literature, film, or music as of import for global politics. This is surprising given that, in the current 'ludic century' (Zimmerman 2013), recreational gaming has become the leading form of entertainment worldwide.[7] The explosion of the videogames market has led a small but growing community of scholars to integrate this medium into IR's broader debates on popular culture.[8] What has gone mostly unnoticed in both public and scholarly debates is the concomitant rise of military gaming.

Since 2014, a gaming renaissance has been underway across the US defense establishment. From simple card and counter games to augmented/virtual reality training systems, and from basic

[1] See for example Weldes 2003; Grayson, Davies, and Philpott 2009; Shepherd 2013; Wang 2013; Caso and Hamilton 2015; Daniel and Musgrave 2017; Kirby 2017.
[2] Including Weldes 1999; Weber 2006; Shapiro 2008; Carver 2010; Kaklamanidou 2013; Davies and Chisholm 2018; Harman 2019.
[3] Key studies include Nexon and Neumann 2006; Walonen 2019.
[4] For example, Bleiker 2009; Frost 2010; Moore and Shepherd 2010; Hansen 2011; Edkins and Kear 2013; Ryan 2017.
[5] While this area is less developed, see Behnke 2017.
[6] Including Franklin 2005; Ramel and Prévost-Thomas 2018; Baker 2019.
[7] In 2018, the games market generated $138.7 billion. Since 2010, it has generated higher profits than the Hollywood movie and popular music sectors combined, with the Asian market accounting for 47.4% ($72.2 billion), the US 26% ($39.6 billion), Europe/Middle East/Africa combined 23% ($24.7 billion), and Latin America 4% ($5.6 billion) of the global share (Mitic 2019; Newzoo 2019).
[8] See Salter 2011; Robinson 2015; Ciută 2016; Brown 2017; Schulzke 2017; Berents and Keogh 2018; Jarvis and Robinson 2019.

training to four-star command, today gaming is entrenched across the military's strategic planning architecture, teaching and training regimes, and administrative infrastructure. To date, IR has neglected to engage with this revival. Indeed, the discipline has been broadly silent on the topic of military gaming since the 2009 edition of James Der Derian's *Virtuous War: Mapping the Military-Industrial-Media-Entertainment*. This article argues that hyperreal games – that is, games that produce realities – play an increasingly important role in the attraction, production, management, and recovery of warfighters. The core argument developed is that unlike simulations, which model *scenarios*, games are productive of *people*, values, and identity. Drawing in detail on one hundred hours of interviews undertaken with US military games designers, trainers, trainees, and veterans between 2017 and 2019, the article shows how gaming works as a tool of military subjectification across the spheres of recruitment, training, deployment, and rehabilitation. In doing so, it demonstrates the unique subject-producing properties of military gaming disaggregated from the broader hyperrealities of simulations, models, and exercises with which it has hitherto been conflated.

The paper begins with a brief, but largely forgotten, history of IR's involvement in the rise of gaming and simulation in the 1950-60s. Foreshadowing metatheoretical debates between social scientific and reflexivist scholars beginning in the 1980s, the paper identifies an epistemological and methodological split which privileged quantitative forms of modelling/simulations at the expense of qualitative gaming. Having set out the rise and decline of gaming in the twentieth century, the paper turns to its contemporary resurgence, locating this in the explosion of videogames as a global entertainment medium, increasing scholarly interest in popular culture, and the proliferation of games in higher education and beyond. Drawing in detail upon interviews with (ex)warfighters, the paper then sets out four subject-producing dimensions of military gaming: 1) addressing falling recruitment numbers; 2) delivering engaging and effective training; 3) supporting service members on deployment; and 4) novel therapeutic and rehabilitation provision. It concludes that with gaming ascendant, IR must get to work analysing these at once real, unreal, and hyperreal artefacts if it is to understand their increasing impact on warfighter subjectification and the production and projection of military power today.

The Rise and Decline of Games in IR

Since its first heyday in the US defense establishment in the 1950s, gaming has been intimately interwoven with the discipline of IR. By the mid-1960s, DoD-sponsored games and simulations were used widely to study and teach global politics at the Universities of Michigan, Ohio State, Oregon, San Francisco State, Northwestern, Wisconsin, Columbia, Stanford, Princeton, and MIT (Guetzkow and Jensen 1966, 264). Combining insights from *Kriegsspiel* and social psychology (Banks et al. 1968, 2), games provided a 'less explosive arena than the real world for playing out [analysists'] more risky hunches' (Banks et al. 1968, 15). Overseen by strategic thinkers including Andrew Marshall, Herman Kahn, and Thomas Schelling, games and simulations elicited 'fascination, ardour and scepticism' in this period, becoming the 'vogue of the moment' (Banks et al. 1968; Ghamari-Tabrizi 2000).

Explicitly tied to dominant International Relations theories (Verba 1964; Coplin 1966), mid-twentieth century games and simulations had a distinctly Realist flavour. As two leading simulators explained: 'Having recognised that there are many ways of building theory in international relations, we have been interested in ascertaining the relationship between the more familiar verbal efforts in theorizing and the use of simulation for theory-building. To do this, simulation models have been juxtaposed to the to the more traditional modes of verbal theory-building of such writers as Morgenthau, Wolfers, Claude, and Kaplan' (Guetzkow and Jensen 1966, 266). Anticipating critiques developed in the 1980s, some looked to games and simulations to move beyond statecentric to system-based thinking (Banks et al 1968), while others questioned the 'realities' produced through these contingent theoretical assumptions (Modelski 1970).

In part through the respective techniques of the Mathematical Analytics Division (MAD)[9] and Social Sciences Division (SSD) at the RAND Corporation, by the mid-1960s games and simulations had diverged into two methodologically distinct types (Emery 2021). Applying economic modelling, game theory, and quantitative methods (Verba 1964, 429), MAD simulations were highly controlled and deductive, often being played out automatically on computers. Reflecting the broader turn to behaviouralist and positivist approaches in the social sciences, quantitative modelling and simulation sought to apprehend multiple variables and vast quantities of raw data using the novel technologies of the day (North 1963). Simulations thus modelled – and thereby produced – *scenarios*.

[9] The acronym 'MAD' here is not to be confused with that of 'Mutually Assured Destruction'.

Emphasising instead the cultivation of intuition and judgement, and centring human participants, SSD ran qualitative games (Emery 2021, 2). This approach focused on the subjective aspects of decision-making, including 'the emotions and the ethical intuitions of the players' (Emery 2021, 5). The advantage of this was that the outcomes were meaningfully affected by players' decisions and a deep emotional engagement was cultivated among players. As Sharon Gharami-Tabrizi notes, this alerted the defense analysis community to 'the value of disinhibited play as a vehicle for creative research' and the capacity of games to generate 'synthetic experience' (Ghamari-Tabrizi 2000, 179-180). While simulations produced scenarios, then, these games produced *people* by engaging affect, values, and subjectivities.

Notwithstanding the potentials these capacities afforded, games were soon eclipsed by the simulations 'whizz kids' (or, more pejoratively, 'egg-heads') who came to dominate US defense analysis under the leadership of Robert McNamara during the Kennedy administration (Perla 1990, 105-109). In parallel, while games were broadly ignored in IR, modelling and simulation continued to generate interest. Reflecting the broader metatheoretical debates and the rise of postpositivist IR theory in the 1980s, scholars such as Richard K. Ashley examined modelling as a key technique of postmodern power. Challenging positivism's search for fixed laws and unifying theory, and simulations' erasure of normative and critical questions, Ashley likened modelling to Bentham's Panopticon. Indicting it for failing to justify its 'utilitarian metaphysics, positivist methodology, and techno-rational interests in knowledge as an instrument of control' (1983, 532), Ashley called on its advocates to reflect on how their ostensibly value-neutral techniques were used in the service of the 'dominant consensus' and take seriously the emerging view that a viable unitary theory – as well as unitary truth – remain illusory. While simulations thus enjoyed attention in IR, games were firmly off the agenda through that latter portion of the twentieth century.

The Return of Games in IR

With the exploration of videogames in the digital revolution of the twenty-first century, games and gaming culture are now back in vogue (Barzashka 2019). Once considered niche or nerdy, as one recent report put it, '[i]n the last decade alone, the years-long stigma against gamers has all but disappeared. What's more, the past year has seen many brands—including the biggest companies in apparel, automotive, and even financial services—connect with gaming in bigger and better ways than ever

before' (Newzoo 2019, 2). Reflecting these changing perceptions, over the last decade a burgeoning literature in IR has examined the violence, militarism, exceptionalism, and emancipatory potential of recreational gaming.[10] These themes have also been explored some length outside the field, notably in Defense Studies,[11] Media Studies,[12] English,[13] Philosophy,[14] and Games Studies.[15] In addition, gaming is back on the agenda in IR due to its increasing popularity as a teaching tool. Echoing claims made in the 1960s (Banks et al. 1968, 15-16), many contemporary scholars argue that pedagogical gaming can increase student motivation, engagement, knowledge retention, teamwork, and analytical skills.[16] Beyond IR, the Covid-19 pandemic has precipitated a rapid proliferation of gamified teaching and learning activities across the education sector (Batha 2020; Favis 2020; Todd 2020) and public health management projects (Levy 2020; University of Oxford 2020). Many of these 'serious' applications of gaming look set to continue as lock-down and social distancing protocols fluctuate.

Perhaps surprisingly given these developments, a notable silence persists when it comes to military gaming. Indeed, with a handful of exceptions,[17] IR has broadly ignored the topic. In recent years, a series of policy-facing publications have made the case for the strategic utility of gaming,[18] and the efficacy of gaming as a teaching/training tool has long been affirmed in the professional wargaming community of practice.[19] But critical analyses in IR remain rare. The principal exception to this rule is James Der Derian, who pioneered the study of military simulations and games in IR over a twenty-year period (1990a, 1990b, 1997, 2000, 2003, 2009). Der Derian argued that, since at least the Prussian *Kriegsspiel* of the 19th century, simulations and games have worked in defence of the reality principle they themselves transgress (1990b, 300). More broadly, he charted the course of a new form of war – 'virtuous war' – that functions like a game: 'From Bosnia to Kosovo, from Afghanistan to Iraq, virtuous war had taken on the properties of a game' (2009, 272). Distinguishing this new 'war-as-game' from wargames proper (2003), Der Derian traced the relationship between technological advancement and

[10] See Salter 2011; Robinson 2015; Barbrook 2014; Ciută 2016; Hayden 2016; Brown 2017; Schulzke 2017; Berents and Keogh 2018; Jarvis and Robinson 2019.
[11] See Smith 2010.
[12] Including Dyer-Witheford and De Peuter 2009; Huntemann and Payne 2010; Stahl 2010; Lammes and de Smale 2018.
[13] See Mead 2013.
[14] See Galloway 2006; Wark 2007.
[15] Notably Bogost 2010; Mukherjee 2017; Hammond and Pötzsch 2020.
[16] See Asal 2005; Asal and Kratoville 2013; Arnold 2015; Horn, Rubin, and Schouenborg 2016; de Zamaroczy 2017.
[17] Including Antoine Bousquet (in Mackay) 2015, Dan Öberg 2019, Nick Robinson 2019, and Erik Lin-Greenberg, Reid B. C. Pauly, and Jacquelyn G. Schneider (2021).
[18] Work and Selva 2015; Lacey 2016; Bartels 2018; Pauly 2018; Barzashka 2019; Wong and Heath 2021.
[19] Perla 1990; Perla and McGrady 2011; Sabin 2014; Harrigan and Kirschenbaum 2016; Caffrey 2019.

gamified activities in the military arguing that 'digitized wargames, twice removed by scripted strategies and technological artifice from the bloody reality of war, take simulation into another realm' (1997, 208).

Most importantly for the current study, drawing on Paul Virilio and Jean Baudrillard, Der Derian drew into focus games' at once real, unreal, and hyperreal qualities. Insofar as they function as 'the continuation of war by means of verisimilitude', he explained, simulations have 'demonstrated the power to displace the "reality" of international relations they purport to represent', creating 'a new space in international relations where actors act, things happen, and the consequences have no origins except the artificial cyberspace of the simulations themselves' (1990b, 301). He thereby set the terms for a new research agenda which examined the reality-producing properties of games and simulations.

However, as he himself noted, Der Derian explored the hyperrealities of models, simulations, exercises, and games together in a combined analysis (1990b, 300-301). While this made good sense for Der Derian's research interests, this conflation overlooks what is distinctive about games. As noted above, simulations model – and thereby produce – *scenario*s. Often run on a computer without a human in the loop, the object of a simulation is to variously map, foresee, and produce particular scenarios. As he put it, 'we now have the technical means to make maps and models that seem as real as the reality that they simulate. "Virtual" or "artificial" reality is what the computer scientists are calling it. Baudrillard refers to it as the realm of hyperreality, where origins are forgotten, referents lost, and simulations begin to precede and engender reality' (Der Derian 1990b, 189). The hyperreal function of simulations, then, is that they are *scenario*-producing.

Games, in contrast, produce *people*. Interested in process rather than outcome, and involving human players, games explore decision-making and generate intuition and experience. To that extent, the player, rather than the outcome, is the object or target of the enterprise. Accordingly, games' hyperreal function is that they are *subject*-producing. In view of this, this paper disaggregates the respective hyperreal productions of simulations, models, exercises, and games, focusing exclusively on the latter's roles in the attraction, production, and management of warfighters. In order to do this, it draws in detail on interviews conducted with (ex)warfighters to examine their first-hand experience of hyperreal gaming from recruitment to rehabilitation.

The research project on which this paper is based employed a qualitative methodology and used semi-structured interviews as the primary method of data collection. While positivist approaches

present interviews as useful to fill gaps in the official record, but limited to the extent that that they 'mix fact and belief,' this study follows Van Puyvelde's argument that they are useful precisely 'to learn about individual beliefs, perceptions, and preferences.' Because it is interested in tracing the hyperrealities produced using games, this method is appropriate because it 'examine[s] how reality is constructed and represented during interviews' (Van Puyvelde 2018, 378). The author conducted a total of seventy-three interviews with designers, instructors, trainees, and veterans between February 2017 and January 2019 across the US Army, Marine Corps, Air Force, and Navy, each lasting between thirty and ninety minutes.[20] Interviewee demographics are summarised in Table 1.

	Army	**Marine Corps**	**Air Force**	**Navy**	**Joint Force**	**Civilian Institution**	**Third Sector**
Designers/ Instructors	17	2	1	9	22	8	
Trainees/ Veterans	6	4	2				
Support Workers							2

Table 1

Thirty-eight interviews were conducted remotely (by skype or phone), and thirty-five in person. In-person interviews were conducted during the course of three fieldwork trips to the United States lasting between one and four weeks, and one fieldwork trip to Sweden lasting five days.[21] Interviews were transcribed and coded preliminarily by three research assistants. The PI the reviewed and completed the coding and analysed the data. Interview questions can be found in Appendix A.

[20] Ethical approval granted by King's College London Research Ethics Office: MRA-17/18-5816. Written consent was secured from each participant to audio record and utilise data from interviews.

[21] Individuals were interviewed at: National Defense University; Naval War College; Army War College; Naval Postgraduate School; TRADOC; Joint Staff J7; Centre for Naval Analysis; US Army Pacific; US Army Command and General Staff College; US Army Simulation and Training Technology Centre; DoD Modelling and Simulation Coordination Office; NATO Modelling and Simulation Research Department; Defense Forensic Science Center; Marine Corps Systems Command; National Guard Bureau; Military Operations Research Centre (MORS); School of Advanced Military Studies; RAND; Naval Air Warfare Centre; Marine Corps Warfighting Laboratory; Air Force Research Laboratory; Joint Multinational Simulation Center; Joint Interagency Task Force; Stack Up. In addition, interviews were conducted at Yudh Abhyas 2017, Viking 2018, and I/ITSEC 2018.

Wargames Resurgent

A gaming renaissance is currently underway in the US military. Prompted by DoD-wide memos from Secretary of Defense Chuck Hagel (2014) and Deputy Bob Work (2015), which called for a reinvigorated wargaming effort across the services as part of the Third Offset Strategy and broader Defense Innovation Initiative, gaming has rapidly proliferated across the services. Over the past seven years the Defense Wargaming Alignment Group (DWAG) has been established, a $10m gaming incentive fund set up, a wargaming repository created at the Office of the Secretary of Defense, and a series of wargaming modules and Handbooks put together at the Army War College, TRADOC, Naval Postgraduate School, Marine Corps University, Air Force Research Laboratory, MORS, and beyond (Hirst 2020). Gaming is currently used across the military's strategic planning, teaching, training, procurement, investment, and modernisation regimes. Gaming has likewise proliferated in the analysis of emerging security issues including cyber,[22] near-peer competitors like China,[23] and the Covid-19 pandemic,[24] and is appearing with increasing frequency in outlets such as *Foreign Policy*[25] and *Science* (Reddie et al. 2018). RAND's focus on games has also been renewed in its Centre for Gaming and Blog,[26] and the King's Wargaming Network was established in 2018 at King's College London with the aim of formalising wargames research and teaching. Taken together, these are indications that gaming is currently enjoying a peak in its fluctuating 'sine wave of popularity' (Perla 1990).

In the context of the military, capitalising on the existing skillset of the 'digital native', gaming has become a key element of service members' experience from recruitment to rehabilitation. Strategic communication gaming, in particular *America's Army* (Bogost 2010; Schulzke 2013), has been heralded as a breakthrough in countering recruitment stagnation. Training games, advocates argue, provide a cost-effective, replicable, and engaging way to impart skills, cultivate physical and mental muscle memory, instil doctrine, and promote socialisation, teamwork, and unit cohesion (Shaffer et al 2005; Susi et al 2007; Squire 2008). When deployed, it is argued, games provide much-needed distraction and boost morale (Banks and Cole 2016). And following injury, proponents argue, gaming is an effective tool in promotion of physical and psychological recovery (Elliott et al. 2015; Banks and Cole 2016; Derby

[22] Examples include Curry and Drage 2020; Schechter 2020; Wheeler and Ertan 2020.
[23] See Insinna 2021; Sevastopulo and Hille 2021.
[24] Including Pauly 2020; Perry 2020.
[25] See for example Stuster 2013; Hadavas 2021; Peck 2021.
[26] Such as Bartels 2021; Bae and Kearney 2021.

2016; Colder Carras et al. 2018a, 2018b). The following four sections deal with these sectors in turn, tracing games' subject-producing properties.

Recruitment Gaming

Garnering significant attention in the international press, since the early 2000s the US military has used games to counter dwindling recruitment numbers (Achter 2010). The Army's free-to-download first-person-shooter (FPS) *America's Army* was the first produced by the military specifically for recruitment purposes (Schulzke 2013; Robinson 2019). Between 2002 and 2014, forty-one versions of the game were developed for desktop, console, and hand-held devices (Thomas 2019). While many commentators have proffered important critiques of recruitment gaming (Salter 2011; Schulzke 2013), its effectiveness as a strategic communication tool is broadly a matter of consensus. Within six months of its launch, a million users had registered (Bogost 2010, 75). Since then, its website has recorded fifteen million players (Robinson 2019, 11). One a survey concluded that '30% of all Americans age 16 to 24 had a more positive impression of the Army because of the game, and, even more amazingly, the game had more impact on recruits than all other forms of Army advertising combined' (Edery and Mollick 2009, 141).

Service members interviewed for this project affirmed this evaluation. Emphasising their[27] approval of the game, one Army gunner explained: 'the army came out with a game called *America's Army* several years ago that they used sort of as a recruitment tool. It was a videogame you could play but it was a recruitment tool. And it was a very fun game. They did a wonderful job on it' (Interview G, 2019). A former Army sergeant echoed this sentiment: 'I'd already been in the army for quite a while when this game came out. And I could definitely see where the Army tried to push as both a recruiting took and a competitive tool, because in the game you go through basic training, you go through AIT and stuff like that. And it was cool' (Interview C, 2018).

Interviewees praised *America's Army* for capturing key elements of real-world training and deployment, unlike conventional FPS games. As one former Marine Corps reservist relayed:

> I actually appreciate that game because they did something that's not done normally in first person shooters: they make you earn things. Which is a part of military life. I have a disconnect with the popular first-person shooters like *Call of Duty*... It's really frustrating [when people say] I want to join the military because I played *Call of Duty*. You really need to know the military.

[27] In order to preserve interviewee anonymity, gendered propounds are not used in this article. Instead, the singular 'they/their' is used throughout.

> Ninety five percent of your active-duty time will be spent with a broom in your hand... And anybody who tells you anything else is lying (Interview D, 2018).

This approval was accompanied by a broader sense that increasing videogame recruitment is positive for service members as it helps prepare them for the realities of military life. As one officer from Stack Up – a leading veterans' gaming charity – explained, 'there is always going to be shooting games. There is always going to be games about history, soldiers and war. And there is nothing the military or anyone else can do about that. So if the military wants to use those things as a way to identify people, or possibly even expose people in a way that is less impactful negatively on them, then honestly I am perfectly fine with that. I would rather people who are going into the situation having more realistic idea of what's going on' (Interview H, 2017).

These endorsements were tempered, however, by statements of caution about the use of games for recruitment purposes. Several interviewees emphasised that the impression of military life conjured by *America's Army* is highly selective and sanitised. As one former Marine noted, 'videogaming is fun and it could be used as a recruitment tool to maybe pull in gamers. But you have to understand that you're only showing one side of a twenty-sided dice. [Players] don't see the five o'clock in the morning PT, somebody yelling at you. They don't see the deployments that have come in, the time you won't spend with your family, the time you won't spend in front of that console. So it can lead down a slippery slope if done wrong' (Interview F, 2019). As this suggests, interviewees emphasised that recruiters have a good deal of power using games to attract potential enlistees. One former Army officer reflected:

> As a gamer, I didn't think it [*America's Army]* was that great, but if I was not military at the time when it came out, how would I have felt? It might have been very different… If there's game released at like a Game Stop store in one of the small towns, a recruiter station might come and set up. They give away some swag like one of the cool backpacks if people sign up, [and people] take a business card. That gives the recruiters an 'in' to be like, "hey, have you thought about this?" Sometimes just seeing them there gets people interested and thinking about it… This is where the question of morality comes in. They created a sim to recruit service members into the military. That's a pretty powerful tool. Now, how do they feel when said recruits pass away during combat? Now you're God. Now you've influenced a life, that life ended prematurely because of – not because of the influence, but would they have decided to join? (Interview B, 2017).

Concurring, one former Marine emphasised that 'it's on the recruiters to explain that these are videogames, these are simulations. Everything is not going to be in this comfortable environment when you actually get into the real world' (Interview E, 2019).

Interestingly, interviewees suggested that the military could learn valuable lessons from the commercial gaming industry by incorporating a stronger sense of narrative and more compelling story arcs into recruitment games as this would more effectively draw in potential recruits. One former Army sergeant suggested that military recruiters 'definitely have to take a step back from something like *America's Army* and see what the industry is doing. If they talked to more companies from the industry and said, "here is generally what we want to do" and created a story around that and make it a beautiful story, young kids down the road would be interested and wanting to join when they become of age' (Interview C, 2018).

Thus, according to these interviewees, recruitment gaming has hyperreal effects in the presentation of military life in ways conducive to attracting to recruits. By allowing them to play at soldierly life prior to enlistment, users begin to be produced as warfighters before they have decided to sign up. The simulated reality of military life conjured in recruitment gaming comes to overdetermine and replace the often less appealing reality it models, at least long enough to ensure recruits sign on the dotted line.

Training with Games

In addition to serving as a powerful recruitment tool, games play a significant part in the US military's training regimes. Games have long featured as a training tool for militaries across the globe, from the Prussian *Kriegsspiel* of the early nineteenth century (der Derian 1990a, 2003; Perla 1990; Sabin 2014; Bousquet in Mackay 2015) to the virtual and augmented reality games of the twenty-first century. Incorporating manual games, digital games, computer assisted command post exercises (CPXs), and augmented and virtual reality systems, gaming is firmly institutionalised and proliferating in the formal training sector (Hirst 2020). A key reason for this upswing is, as one former Army sergeant explained, that games make training fun: 'You can always work teaching into recreation' (Interview D, 2018).

In the Covid-19 pandemic, games training looks set to proliferate further. The pressures of social distancing and quarantine have compounded the push towards remote options. As McArdle et al. argue, in this context 'new programs, like the U.S. Air Force's Pilot Training Next or the Army's Aviator Training Next, combine emerging virtual reality and augmented reality technology with commercial off-the-shelf systems to develop low-fidelity simulators that can be utilized for training anywhere, at any time — from the dorm room to a classroom' (McArdle, Kehr, and Colabatistto 2020). They continue to explain

that collective training systems such as *Virtual Battlespace 3* (VBS3), the Army's 'Synthetic Training Environment', and the Air Force's 'distributed mission operations network' allow for plug-and-play connectivity, both within and between the US's services and those of allies (McArdle, Kehr, and Colabatistto 2020).

Service members interviewed affirmed this proliferation and identified a number of impacts. First, they emphasised games' capacity to engage trainees. In contrast to conventional classroom methods, trainees noted that they draw them into training. As one former Air Force staff sergeant explained, 'instead of death by PowerPoint, some of the developers made it like an interactive game… [which] makes us actually more interested in the training, actually pay attention to it'. By creating space in which the trainee can 'intentionally do the wrong thing just to figure out what happened', training with games is more engaging than other methods. This interactivity, they concluded, makes games training 'more interesting… than sitting in a classroom trying to stay awake listening to someone explain something to you for the 50,000 time… It's more fun when you have a videogame and you can actually practice on a virtual thing' (Interview K, 2018).

Second, service members noted that games result in better retention of subject matter. As one instructor claimed, in a game 'you are making decisions internally with each other and you are going to remember that a little bit longer than just sitting in a classroom and listening to [a] Professor talking about how you shouldn't go to Syracuse'. This works, he continues, because affect and feeling are introduced into the training process: 'I think when you make the experience emotional, it helps to retain the learning' (Interview L, 2017).[28]

Third, interviewees noted that gaming is efficacious for honing a series of specific skills, in particular those related to reflex responses, including hand-eye coordination, peripheral vision, hyper-awareness (Interview J, 2017); silhouette recognition (Interview D, 2018); communication and teamwork skills (Interview F, 2019); and situation analysis (Interview B, 2017). Furthermore, as one former Marine Corps reservist explained, games promote adaptive thinking because they facilitate 'changes in the scenario every time you go through. So you're not getting used to things'. In such training, they continued, 'you can practice that situation in a safe environment… [B]ecause the first time you do something you're probably going to fail, and the first 100 times you do something you're probably going to fail. The advantage of videogames is, you can record all of that data, every person's view, everything

[28] This echoes claims made within and beyond IR about the pedagogical efficacy of gaming (Banks et al. 1968; Asal 2005; Asal and Kratoville 2013; Horn et al. 2016; Orsini 2018).

that was said'. Crucially, they asserted, this allows you to 'build an answer for yourself… and then, when you're in the real-world situation, your brain is going to pull that information faster because it's experienced it more times' (Interview D, 2018).

Fourth, interviewees noted that games do not depend on specific training conditions. As one former Marine explained, 'sometimes you just can't get to the range. Sometimes I don't have the airspace to fly something. There are videogames that are trainers, and sometimes there are elaborate setups with screens, air rifles, laser points to say where you shot. And they help because I may not have access – it may be thirty degrees below zero. We ain't shooting in that'. Under such conditions, they continued, gaming can be a useful substitute: 'I can get a game, I can set up a couple of screens and get a real controller in your hand that's as responsive as if you were flying a drone for real. I can bring even videogames that are just regular videogames, your *Call of Duty*, your *League of Legends*, and have teams playing those games' (Interview F, 2019).

Such training is vital, one Stack Up officer explained, because 'there are things that you sometimes can't simulate, whether it be your convoy hitting an IED, no one wants to realistically experience that. But, at the same time, giving people training so that even if their response times are a fraction of a second better, this could easily make the difference between life and death for them and their fellow soldiers' (Interview H, 2017). This kind of training, interviewees argued, has a good deal of potential to further improve as advancements in virtual and augmented reality systems continue. As one Army gunner stated, with VR you can place trainees 'anywhere in the world. You can have them trained for any type of mission. The ability to use that as a training tool is endless… [W]ith today's technology, boy, if you could get your hands online and actually mould it correctly you'd have one hell of a powerful tool there' (Interview G, 2019).

On the other hand, interviewees also noted the limits of games training. One former Marine Corps staff sergeant reflected: '[n]othing beats the real thing. Nothing beats taking a group of soldiers or Marines onto a rifle range and teaching them marksmanship in the real world. But some folks need remediation. Some folks pick up fundamental marksmanship things quicker than others. We're all human and we all learn at a different rate' (Interview J, 2017). This was echoed by one former Marine Corps reservist: 'It's not going to replace physical training, but it can help guide physical training. And it can be a great first step. In the morning we're going to practice going through [virtual] rooms 100 times over. Then in the afternoon we're going to go to a real room and practice 100 times over all the things we practiced that morning' (Interview D, 2018).

Several interviewees emphasised dangers beyond such practical limitations, in particular the role of gaming in desensitisation and preparing service members for harming and taking lives. As one former enlisted Air Force member explained, 'we call it dehumanising in the mental health field. Shooting a pixelated character in a videogame is a lot different than shooting at somebody in real life or getting shot at. I don't think a videogame can really prepare somebody for that' (Interview N, 2018). One former Army sergeant similarly reflected: 'you can kill [targets] and there are no consequences, there is always a bad side to it. I'm not saying everybody is like that, I'm just saying that there are some people who don't take the right lessons from the training' (Interview I, 2017).

Whether emphasising the benefits or dangers of games training, interviewees noted its capacity to produce warfighters. As one former Marine Corps reservist relayed, even when a game does not correspond to real-world training activities, players could still learn lessons and practice protocols. They elaborated:

> In the Marine Corps you have fire teams, and then you have fire team members. We eventually had enough people playing at the same time that we could still use that structure. So we would utilise that kind of rank structure and be, like, this is how you have four people breach a house. We're doing it in videogames - in the most unreal videogames possible - but it was still a fun thing. We would do the call outs that we would normally do in real life. The things we were supposed to be doing in real life we would do in the game. It was a teaching tool' (Interview D, 2018).

As the above makes clear, games have a series of hyperreal impacts in the production of service members through the US military's formal training regimes. By making training accessible and fun, games accelerate the interpellation of a gamer-warfighter suited to the contemporary military's need for reflexive problem-solving and decision-making (Hirst 2020).

Deployment Gaming

Unlike the formal use of gaming for recruitment and training by the US military, the use of games on deployment tends to be more grassroots-driven. Interviewees agreed that gaming for recreational purposes when deployed has become ubiquitous in the post-9/11 world. One former enlisted Air Force member noted of their time in Iraq: 'I remember people bringing their Xboxes to these deployments and setting them up on a local area network and playing games like *Halo*. It was very common, even all the way back then in 2003' (Interview N, 2018). One former Marine relayed a similar experience: 'when I was in the military on deployment it was sometimes our only form of entertainment. You would have

thirty guys surrounding one TV watching one person play… We eventually got to where we had two Xboxes set up, and we started having our own little in-house tournaments, and it was a great stress relief' (Interview D, 2018).

Service members identified a series of reasons why they play games while deployed. First, they noted games' importance for establishing and maintaining connections with peers by creating a space for building camaraderie, friendly competition, and a sense of family. As one former Army Captain put it, 'when guys are overseas there is not a lot to do, so guys will have a tendency to disappear and just hide off on their own. Gaming acts as a shared language that [allows them to] get together' (Interview A, 2017). One former Army officer similarly recounted: 'The guys with the XBoxes were the popular ones. It was a lot of fun. And I miss that. You'd be hard pressed to find that anywhere, that sense of family… I can't even explain it because none of us were blood, but we were family more than I think even my own blood was' (Interview B, 2017).

Second, interviewees emphasised that gaming provided a vital escape mechanism from the demands of deployment. One former Air Force staff sergeant explained that gaming allowed players to 'deal with different types of stress. If you're angry you can go and play a game where you get to blow stuff up and feel powerful' (Interview K, 2018). One former Marine elaborated: 'it was our escape in bad times. It was our means of downtime while we were still on shift' (Interview F, 2019). Gaming was an especially helpful escape mechanism, interviewees noted, as it was free from side-effects or undesirable consequences. As one retired Marine Corps staff sergeant explained, 'it kept my stress very low when I had things happen out there that I needed to get away from. I had a very comfortable form of escapism that didn't detract from my mission' (Interview J, 2017).

Third, interviewees relayed, gaming functioned to keep service members occupied and focused, proving a distraction from the realities of deployment. As one former enlisted Air Force member stationed in Iraq recounted, 'on my very last deployment I had a PlayStation 2 with me. I used gaming as a way to relax, as a way to decompress, and to take my mind off of everything that was going on' (Interview N, 2018). This was especially important, interviewees noted, because of the long hours of inactivity associated with deployment. As one former Marine Corps Staff Sergeant put it, 'there's a lot of downtime. The high stakes dynamic combat type of environment, for most service members, only accounts for about ten percent of the time that you spend in a combat zone. The other ninety percent is what we call, in the military, "hurry up and wait"' (Interview J, 2017).

Such protracted downtime, interviewees noted, could be especially difficult when dealing with loss or trauma. A fourth benefit of deployment gaming was relief such feelings. As one former Marine Corps staff sergeant explained, gaming helped service members when 'they start thinking about the fact that maybe they don't make it home, you know, maybe they're not going to come back or maybe they lost somebody. So I lost a friend of mine when I was in Iraq, and the downtime was the worst, because when I was working I was busy and I was engaged, I didn't have time to mourn, but when I went back to my tent at the end of the day and I was just sitting there and I'm like "ah man, you know, [he's] gone", and so it's tough right.' Under such conditions, they continued, gaming 'represented the comforts of home' (Interview J, 2017).

A fifth benefit of deployment gaming is its capacity to serve as a 'shared language' and 'a great shot in the arm for morale' (Interview A, 2017), especially through the *ad hoc* tournaments organised by service members during the protracted downtime (Interviews A, C, D, E). These tournaments often involved whole units (Interview D, 2018), and sometime attracted external sponsors such as The Gamer's Credit Card company, which provided prizes and merchandise (Interview C, 2018). Indeed, as one instructor noted, the utility of these deployment tournaments was eventually noticed by commanding officers, who began to sponsor the events by providing food and resources. As one former Marine relayed,

> [m]y direct commander… saw the advantage of it as a competitive strategy, as a motivational strategy. [They said] "hey, we're going to pull some strings and get some food down here", which is not something we're normally allowed to do. But we had a room that we could clean out and put food in there if we wanted to. So [they said] "you guys can have a tournament. And we're going to do a big chart on the wall, and really kind of push that competitive nature that Marines are supposed to have" (Interview D, 2018).

This support, interviewees reported, resulted in the institutionalisation of deployment gaming on a larger scale. As one wargames professor explained, in Afghanistan by 2012-13 'you have big centres for getting the videogames and… spaces for you to play the various games and typically they're not playing *Zelda*. They're playing some kind of combat game, which at the time I used to sit there and say that's kind of interesting' (Interview P, 2017).

Sixth, in addition to passing downtime interviewees noted that in some instances games could be useful during missions. For example, as one former Marine relayed, if 'you're out in the field for, like, ten hours and you're waiting for a truck to pick you up, if you have a Gameboy you can go down and play something for an hour, instead of sitting there and thinking about how you're in the sun and it

really is uncomfortable' (Interview D, 2018). Further, for some deployed service members gaming became more of a priority than rest or sleep. As one former Marine explained,

> we were working twenty hour days and trying to get equipment repaired and back out to the field. And there was, like, four hours in the day we had, we would spend some of them playing video games for stress relief, because four hours asleep is not going to get you anywhere. So you play some games with some friends, you build camaraderie, and that got you further through getting through the next day, because you ended up looking forward to, oh, "I'm totally going to smash you tonight, it's going to be awesome". And, we had moments where we would talk about the best moments of playing games, the whole deployment (Interview D, 2018).

Under these conditions, gaming has become a primary non-work activity for many deployed service members.

What unites these various accounts is the consensus among these (ex)service members that deployment gaming assisted with producing realities that promoted stress relief and coping strategies. This is important, as one former Army sergeant explained, because 'there are hundreds of wounded veteran charity organisations but there are very few that do stuff for the guys and girls that are still in and a lot of times, if you just focus on them while they're still in, they won't have problems when they get out… Videogames can very much help with that, you know, it gives them a way to ease back in civilian life (Interview I, 2017). In this context, gaming's hyperreal properties are directed towards the management of the difficulties of deployment. Through the simulation of a preferable series of experiences on deployment, the reality of deployment is fundamentally changed.

Rehabilitation Gaming

While the US military has increased its use of games for therapeutic and rehabilitation purses, for example through the 'Bravemind' project developed at the University of Southern California's Institute for Creative Technologies (Der Derian 2009, 160-175), it is at the grassroots level where gaming is most widely used in promotion of community building, informal therapy, and suicide prevention. Leading this sector is the veterans' group Stack Up, the mission statement of which reads: 'Stack Up is a military charity supporting active and veteran service members from the US and allied nations by promoting positive mental health and combating veteran suicide through gaming and geek culture. We utilize a comprehensive approach consisting of four pillar programs' (Stack-Up.org): 'Supply Crates' (providing supply crates of games and consoles to deployed and discharged service members; 'Air Assaults' (funding trips to conventions and gaming events); 'The Stacks' (online and in-person community

building); and 'Overwatch Program' (StOP) (24/7 crisis intervention and peer to peer support in suicide prevention) (Hirst 2021).

Interviewees provided several reasons why gaming is important for managing stress following service. First, as one former Army sergeant noted, 'as far as general recreational gaming, that's great for de-stressing, getting your mind off of things' (Interview C, 2017). This stress relief, they argued, comes from the focus gaming provides. As one former Army communications officer explained 'videogames keep you hyper focused, they keep you focused like you got blinders on. So for me, it shuts off everything else. All the worries, all the stress, everything goes into the game' (Interview B, 2017). One former Marine Corps staff sergeant explained that gaming is 'comfort food' (Interview J, 2017), while a former Army sergeant noted that 'even now, as much as it was when I was in [the Army], it is still very much how I recharge my batteries after big events or stressful situations or just bad days' (Interview I, 2017). This was described by one former Marine Corps officer as a 'mini vacation or staycation' (Interview M, 2018).

Second, post-deployment gaming provides the opportunity to socialise and build community. One former Army officer explained that veterans often feel as though their 'experience or trauma has somehow dissociated [them] from other people' once they return home (interview A, 2017). This sense of alienation often stems from the sense that while they had changed due to their experiences in deployment, people at home had not. As one Army gunner put it, 'your brain rewires itself, I think, when you're in a deployment environment and in a high stress situation. After months and months of being deployed, that becomes your normal. And when you come home it's completely not normal anymore from what it was before you left' (Interview G, 2019). As this suggests, gaming provides a connection to other service members following deployment. One former Air Force staff sergeant noted: 'having [met] all these guys while you were deployed, we could add each other to our profiles and then when we got back home we could play together, even though we were stationed all over the place. It helps social networking' (Interview K, 2018). As one former Marine Corps officer similarly noted, 'I don't get the amount of interaction that I used to. [Before my injury] I would go to the store, I would meet people, talk to people. [Now] I don't get that as much. So when I'm gaming that's what it allows me to do, that's what I'm able to immerse myself in, that comradery, that fellowship' (Interview M, 2018).

Third, interviewees noted that gaming is key for promoting communication. Even though it takes place in an ostensibly 'unreal' game environment, the communication facilitated through games has important real-world impacts. As one former Marine Corps reservist explained, 'even though we know

it's a videogame, the communication can be real' (Interview D, 2018). Gaming, interviewees explained, can provide a focal point upon which conversation can be based. As one former Army officer put it, 'sometimes the best part about a game is hearing how your friends liked or disliked it. That's what can be healing about it, sharing common ground – it's very nice. You'd be amazed at the people that don't share the same life views but you like the same things about the same games. And then you realise, maybe we're not so different… They find this common ground (Interview B, 2017). Suggested here is the idea that the game itself is less important than the communication it facilitates. As one military instructor noted, games are 'a venue to have a reason to talk about war stories. So if something comes up in the game that's similar to something you've experienced, it's a gateway to talking to the topic that somebody might otherwise bottle up' (Interview S, 2017).

Fourth, interviewees claimed that gaming functions as a form of informal therapy. One former Army sergeant explained: 'I've seen that time and time again with other veterans recovering in hospital, veterans that I've worked with that are retired or separated, that maybe weren't gamers before, and got into it as a means of therapy. For me, gaming is my therapy' (Interview J, 2017). Interviewees relayed that gaming provides relief from a range of mental health conditions. As one former Air Force staff sergeant set out, 'it helps with mental health disorders, like post-traumatic stress order, or anxiety, or depression. It helps bond people together. It's a thing you can do with other people, but you don't necessarily have to talk to them to do it, you can just be together. It opens up that forum where you can talk if you want to, but [it helps because] you've got to be together in the first place' (Interview K, 2018).

Many interviewees asserted that gaming has helped them manage post-traumatic stress disorder (PTSD). As one Army gunner explained, their experience of PTSD involves 'constant fight or flight [which] is always switched on'. Gaming, they explained, provides relief from this experience of constant agitation: 'when you play games, it… stops that feeling of being quite so on edge. You're putting yourself more into a relaxed environment, you're doing something that you're in control of' (Interview G, 2019). One instructor elaborated, explaining that gaming furnishes 'a vicarious way of releasing the internal pressure, the internalisation of rather horrific experiences - the fear, the adrenaline. A lot of people don't realise that part of the problem of being in combat is that adrenaline is constant… It really does have an effect on not only the way you conduct yourself, but the way in which you think. [Gaming] can be a productive method to sort of play that out' (Interview S, 2017).

Fifth, interviewees noted that they experience gaming as healing. As a former Marine Corps officer explained, 'I think it can be healing. I am a quadriplegic. I deal with depression and I deal with

physical handicap. After I broke my neck I got into gaming mainly to learn how to use the computer again... And with that, I became less depressed, because I was focused on a goal' (Interview M, 2018). Interviewees explained that this healing occurs as immersion/exposure therapy through which they can revisit or relive traumatic events. Interestingly, several interviewees noted that games set in theatres of war tend to be very popular with veterans and service members, claiming that such combat scenarios allow such exposure to take place. One Army gunner described the experience as 'being in a safe and controlled environment that I know I'm playing a game, but also able to have the sounds and sights [of combat] but not actually being there. [It] provides me sort of like an exposure therapy and allows me sort of to, not necessarily experience the same, but it allows me to enjoy that time without being scared out of my wits' (Interview G, 2019).

Sixth, interviewees asserted that gaming helped prevent suicide among (ex)service members. As recent studies in Psychology have detailed, rates of suicide and suicidal ideation among veterans continue to be high (Colder Carras et al. 2018). Motivated by the experience of its founders and members, the StOP programme run through Stack Up provides support for service members and veterans experiencing suicidal thoughts or impulses (Hirst 2021). Their mission is providing veterans 'the opportunity to heal, whether it's the ability to communicate more, whether it's finding out that they are not alone and that leading to them opening up emotionally, whether it's playing games with other people and just purely because of random conversation leading to them actually acknowledging that they are suicidal' (Interview H, 2017). As one former Marine Corps staff sergeant relayed: '[I've worked with] guys who thought that they weren't going to be able to get back into [gaming] because of their injuries. I've helped them do that and it's like a light switch comes on… I've seen guys go from probably from thinking about hurting themselves or thinking that they didn't really have any value to seeing that tonal shift in the way that they speak about things' (Interview J, 2017).

Seventh, interviewees explained that gaming is used by service members and veterans for physical rehabilitation following injury. Like deployment gaming, this comprises both formal and grassroots activities. Several interviewees noted that ways game help with regaining movement and coordination. As one former Marine explained, gaming helped them redevelop eye co-ordination following traumatic brain injury because it promotes 'the ability to reuse your hands even if it's only for a few fingers, or just to be able to grasp and hold something, and the ability to regain focus and control over parts of you that might have been lost' (Interview F, 2019). Relatedly, several interviewees noted

than gaming can be used to acclimate veterans with prosthetic limbs. One former Marine Corps staff sergeant noted:

> We see guys routinely playing Wii, guys with no legs, and they're learning how to stand and balance on their now prosthetic legs. Part of that… was walking up and down inclines [and] declines, taking a walk around our indoor track and playing the Wii… Whether they're consciously thinking of it or not, they're also training their body to adjust to this new normal… You're thinking about the game and subconsciously you're mastering your new legs' (Interview J, 2017).

Gaming in military rehabilitation facilities is increasingly ubiquitous. As one former Air Force staff sergeant recounted, at 'my mental health facility we had a Wii in our physical therapy room. We used it for shoulder injuries, play[ing] Wii tennis and other things. Videogames - especially with the virtual controls and virtual reality - are not just [good for] mental health. They actually have good physical health capabilities now. It's fun. You're still getting the same physical exercise you would by doing physical therapy, but it doesn't feel boring' (Interview K, 2018).

This link between improved mental health and physical recovery was noted by several interviewees. One former Marine Corps reservist suggested that gaming can help manage physical pain as well as mental health issues. As they put it, 'when I'm in pain sometimes it's better to go and play a videogame for an hour, get through the pain, than taking more medication with side effects. It's pain management and also anxiety and depression management' (Interview D, 2018). Several interviewees noted that gaming has given them the confidence to embark on new careers following serious injury. While returning to active service may not be possible, as one former Air Force staff sergeant explained, 'I can still create things that can help. I like to make things to help the military, so I always like working for the companies that are doing engineering and design work for new technology that can fix problems I saw while I was deployed or help people recover from being deployed... Just because I'm out doesn't mean I can't still do something' (Interview K, 2018). The hyperreal productions of games in this sphere thus contribute to both mental and physical recovery.

Conclusion

Games captivate, compel, and convince us. While debates have long raged about the real-world impacts of recreational videogames - from gun violence to #gamergate - the power of games as a tool of military subjectification raises equally urgent questions. Located in the rise of interest in popular culture and the proliferation of games within and beyond the academic sphere, this article has addressed this question

by tracing the resurgence of games in the attraction, production, management, and recovery of warfighters. It provided a recovered history of IR's role in the first gaming heyday, documenting the bifurcation of two methodologically distinct hyperreal techniques: simulations productive of *scenarios* and games productive of *people*. After a period of obscurity in the late twentieth century, the article demonstrated that in the current ludic century gaming is firmly back in vogue. Relaying experiences of service members and veterans for whom gaming has featured centrally in the lifecycle of their careers, it showed that gaming is used in the production of warfighters to: 1) address falling recruitment numbers; 2) deliver engaging and effective training; 3) support service members on deployment; and 4) facilitate rehabilitation.

The renaissance of military gaming troubles the often-heard disclaimer 'it's just a game'. Spanning spheres as diverse as total immersion training, near-peer/cyber conflict rehearsal, and future force strategy, it seems unlikely that if the impacts of games were limited to the 'unreal' they would be proliferating apace. Consequently, with gaming ascendant, IR must get to work analysing these at once real, unreal, surreal, and hyperreal artefacts if it is to understand their increasing impact on the production of warfighters and projection of military power today.

Such a future research agenda will need to examine games as both a method and an object of study. Of key importance in the development of this agenda is deepening our understanding of games' distinctive epistemological assumptions and methodological orientation (Lin-Greenberg et al 2021). While some argue that wargaming maps broadly onto positivist assumptions and methods, and accordingly is compatible with the generation of hard, objective, predictive, and/or generalisable data, others posit that it fits better with an interpretivist or postpositivist orientation given its focus on people, specificities, and subjectivity. It is possible that wargames may be useful for both sides of this methodological divide, but this requires further demonstration and documentation.

A further key topic for future research has to do with criteria and modes of evaluation and ethical issues. Many scholars and practitioners focus on the strategic, operational, or pedagogical utility of wargames, and hence consider efficacy the key criterion of judgement. Others are focused on the policy-relevance of wargames to elite decision-makers. Still others are concerned with the normative and ethical implications of the military use games across its teaching, training, and research regimes. Whichever of these priorities one adopts, further work needs to be done to refine and proliferate reliable methods of evaluation to substantiate claims of wargames' efficacy as compared to other

pedagogical, research, and decision-making tools and further explore their effects on those who use them.

Across and beyond these areas, the formalisation of knowledge and best practice about wargaming is necessary. One key element of this, currently a priority of the King's Wargaming Network and its many partners, is the development of an academic (sub)field of wargaming through which nascent and future theoretical, conceptual, methodological, empirical, and normative research might be aggregated and disseminated. In short, IR and associated fields must now develop theories, concepts, methods, and research communities adequate not just to new realities of games but to the distinctive hyperrealities they produce.

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Appendix A

Wargames Resurgent

Interview Questions

Section A

1. To start off, to what extent is it the case that we're seeing an increase in the US military's use of gaming and simulation for educational purposes, and why might this be?
2. Can you walk me through the specific benefits gaming and simulation have as educational tools as compared with other teaching methods?
3. What kind of skills can best be improved through game-based learning?
4. What are the pay-offs and limitations associated with game-based learning as service personnel move from training to deployment?
5. To what degree is game-based learning popular among those trained with it?
6. Is game-based learning leading to any specific changes in combat operations?

Section B

7. I've been thinking a lot about the relationship between gaming and the desire to win; without the latter, for former loses its impetus. How do you understand the impulse to win and its role in making games a useful pedagogical tool?
8. What you think about the description of games as 'reward and punishment' systems?
9. How does a game or simulation successfully create an immersive or 'flow' state, and important is this for game-based learning?
10. Another interviewee said to me that games designers are gods. How do you see the role of the game designer?
11. Another interviewee I spoke with talked about gaming as therapeutic and even 'healing' for those who have served. Does this hold water in your view?
12. Are there any key limitations to the utility of gaming and simulation for the US military in your view?
13. What does the future of gaming and simulation in the US military look like in the medium to longer term?

Section C

14. Is there anyone else you think I should approach for comment on the project?
15. Is there anything you'd like to ask me?