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Tempest

Ruggill, Judd Ethan, McAllister, Ken S.

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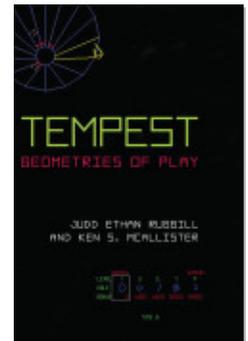
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A Genealogy of *Tempest*

Tempest's aesthetic and technological innovations are only part of what make it a landmark video game. Equally important but perhaps less readily tangible is the historical and expressive context out of which these innovations emerged. Video games were already richly commercialized and artistically developed by the time *Tempest* was released, and Theurer's game unquestionably bears the marks of this context, as we illustrate in chapter 3. By the same token, *Tempest* altered subsequent notions of game design and interaction, simultaneously transforming and reiterating what it meant to play with computers. In order to understand *Tempest* as an iconic game, therefore, it is essential to apprehend the creative and industrial palettes it both drew from and produced.

Toward that end, this chapter and the next contextualize from different perspectives *Tempest's* visual and ludic design in terms of the conventions the game built on, established, and promulgated. In chapter 3, we offer a contextual map that considers *Tempest's* place specifically within arcades of its day, that is, the machines and the zeitgeist that surrounded *Tempest* when gamers walked into their local bowling alley, bar, or convenience store. In this chapter, by contrast, we focus primarily on the question of genre and draw out the general aesthetics, storytelling techniques, and play possibilities *Tempest* initiated, reinscribed, and expanded upon. We begin by tracing the game's foundations to the shooting and survival logics of its generic predecessors. We then examine its innovations as they have come to mean in later games and across a diversity of genres. Principally, we consider the conventions of the "Shoot 'Em Up" and "Abstract" genres (Wolf 2001a, 131), the game's mutable play system, the Superzapper as a hyper-ludic

weapon, the emphasis on three-dimensional gameplay, and the cabinet's distinctive physical interface. In sum, we argue that *Tempest* was a generic hybrid whose ways of making meaning echo through the subsequent history of game design right up to today.

A Few Words on Genre

Before beginning our genealogy of *Tempest*, we need briefly to comment on the concept of genre and its critical utility. Of all the theoretical tools available for textual analysis, none may be more important—and frustrating—than genre. It is unquestionably an apparatus of immense power, enabling the comparison of formal, narratological, industrial, and use patterns across time and space. At the same time, it is a construct of intense challenge and often reveals intractable and incommensurable differences instead of articulation and agreement. Its power and problematics flow precisely from the dynamism of human creativity and the fact that new expressions and analyses of the human condition are always emerging and inflecting extant ways of understanding. As a result, the notion of genre is inevitably and simultaneously clarifying and obfuscating, invaluable and worthless.

To maximize the utility of the concept for the purpose of this book, we proceed from Mark J. P. Wolf's 2001 exploration and taxonomy of game genres, "Genre and the Video Game." While scholars have been formulating and refining genre theory generally since the time of the ancient Greeks, Wolf's work is particularly helpful because of its focus, pragmatism, and reflexivity.¹ For starters, Wolf's taxonomy is one of the first and also most elaborate in video game studies, containing forty-two separate categories ranging from Abstract to Utility games. The taxonomy is modeled on the Library of Congress's *Moving Image Genre-Form Guide* and thus reflects a highly practical typology for the functional storage and rapid retrieval of information by experts and non-experts alike. In this sense, Wolf's taxonomy is not meant so much to reveal the play and variety of game styles as it is to be a finding aid and organizational tool for gaining basic and functional intellectual and physical control over a medium. In other words, it is a working schema, not a theoretical one; it is meant to be deployed, not just debated. Such a construct is essential for a project like ours that seeks to demarcate the landmark qualities of a specific game.

At the same time, Wolf clearly understands and appreciates the conceptual problematics of genre:

The idea of genre has not been without difficulties, such as defining what exactly constitutes a genre, overlaps between genres, and the fact that genres are always in flux as long as new works are being produced. And genre study differs from one medium to the next. (2001a, 113)

His taxonomy is offered expressly with these difficulties in mind, not as a complete accounting but as a representative database and rule-set upon which to build knowledge and technique.

This is not to say, of course, that using Wolf's schema is straightforward. The advantages we enumerate above are also disadvantages. For example, the precision with which Wolf delimits his genres means that they are almost never capable of fully containing anything. As we have argued elsewhere, video games are extremely plastic and indeed often idiosyncratic and irreconcilable (Ruggill and McAllister 2011b). It is difficult to compare one game to another and thus organize them according to shared characteristics because they tend to differ so dramatically in their technologies, play mechanics, and meaning-making devices. Similarly, as Wolf himself points out, it is not uncommon for games to occupy multiple genres at once:

Due to the different types of action and objectives that can occur in a single game, games can often be cross-listed in two or more genres. Also, some games, like *M*A*S*H* (1983) or *Star Wars: Rebel Assault* (1993), feature different sequences or scenarios, each of which can be categorized into different genres. (Wolf 2001a, 166)

This introduces an order of complexity into an organizational system ideally meant to simplify things and effectively winds up encumbering the agility of the system. Finally, by Wolf's own admission, categorizing games in terms of their "interactive experience" (2001a, 113)—however important—is only part of the interpretive process. "[W]hen one is attempting to categorize video games," he explains, "genres based on interactivity can be used in conjunction with the existing taxonomy of iconographically or thematically based genres (like those of film)" (116). It is only through the application of multiple critical and organizational lenses, Wolf seems to be saying, that games can be understood thoroughly enough to be effectively categorized, an admission that further qualifies the utility of his taxonomy.

That said, Wolf's sense of the principal forces in games at times seems

to push at the foundation of his model—“the interaction required by the game’s primary objective” (2001a, 116)—and as a result his genres often incorporate iconographic and thematic elements as well as the interactive ones he wants to focus on. In other words, his model is subtly multivalent and multidisciplinary and consequently answers his own call for synthesis. For example, the first genre he delimits—Abstract games—begins with an aesthetic description: “Games which have nonrepresentational graphics” (2001a, 117). Rather than vitiate the concept of “interaction”—in Wolf’s words, “the activity by which a player gains points and advances levels” (2001a, 115)—the inclusion of what amounts to both an iconographic and thematic description highlights the fundamental and complex relationship between interaction, aesthetics, and narrative. In games—as indeed in many media—the doing is often directly related to the seeing. One’s interactions with the game world are profoundly shaped by how it looks (and vice versa). Thus, even though Wolf works hard to isolate interactivity in order to transcend “the inadequacy of classification by iconography” (ibid.), he winds up strengthening the various formal connections that define how games make meaning. Consequently, his model exceeds its impetus, producing a more pragmatically challenging yet theoretically robust conceptualization of how to categorize games.

It is with an eye toward the strengths and limitations of Wolf’s model—in particular its exceptional nuance, which demands an investment in both a broad and deep interdisciplinary approach—and the innate complexity and diversity of the video game medium, that we now move on to a genealogy of *Tempest* and analyze the context of the game as it emerged and became popular, as well as the context it bequeathed to its successors.

The Abstract Shoot ‘Em Up

According to Wolf’s generic system, *Tempest* is both an Abstract game and a Shoot ‘Em Up. Abstract games typically have “nonrepresentational graphics and often involve an objective which is not oriented or organized as a narrative” (2001a, 117), while Shoot ‘Em Ups “involve shooting at, and often destroying, a series of opponents or objects” (2001a, 131). Exemplary Abstract games from Wolf’s taxonomy include *Breakout* (1976), *Marble Madness* (1984), *Q*bert* (1982), and *Qix* (1981); exemplary Shoot ‘Em Ups include *Centipede* (1981), *Galaga* (1981), *Robotron: 2084* (1982), and *Zaxxon* (1982).

Recalling our discussion of aesthetics and play logics from chapter 1, *Tempest* is fairly abstract in its visual design. While there is a consistent logic

to the layout of its playfields—each tube is comprised of sixteen line segments running along the z-axis and connected at their termini by smaller line segments, creating the illusion of depth and three-dimensionality—it is a logic of abstraction. Not only is the geometry underpinning the tubes essentially a visualization of a mathematical abstraction of space (to invoke yet another sense of the term “abstraction”), but the tubes themselves—and their repetition as a set every sixteen levels—are at the same time consistent and varied in their representation of Theurer’s initial dream of depth, terror, and pursuit. More simply, the tubes are the same only different (as are the sets of tubes, which contain the same shapes in the same order but are rendered in different colors). As a result, whatever the tubes might represent initially—geometric principles, Theueur’s dream, minimally resource-intensive computing, the capabilities of a new color vector display, an arcade experience fully worth the price of play—is ultimately replaced by the tubes themselves as they are repeated over the game’s ninety-nine levels. They become the signifier and referent both. Put another way, the tubes are recursive significations, at once recalling themselves and diverging from those recollections every level and every set. The only thing about *Tempest*’s playfield that is “deliberately representational” (2001a, 117), to use Wolf’s term for non-Abstract games, is the emphasis on and modeling of change.²

At the same time, this abstraction is complemented by more concrete and conventional modes of meaning-making. There is the game’s star field and perceived movement through it, for example, which unmistakably recall the cinematic and televisual depictions of outer space popularized by *Star Trek*, *Star Wars*, and other science fiction shows and series of the 1960s and 1970s. The star field also serves as an inter-level transition and break in gameplay.³ As James Newman explains, such interstices offer respite from the frenzy of play and create opportunities for reflection and thus the production and reinforcement of a sense of continuity, progression, and narrative. According to Newman, “the inter-level break provides a time during which the player can assess their performance, lament missed opportunities, or congratulate themselves on a job well done” (2004, 87). In other words, inter-level breaks are often where the story of gameplay—the organization and sense-making of player and developer actions and inactions—are codified. And there is most definitely a story to *Tempest*, albeit a simple and skeletal one: greater challenges await the willing player—as do greater rewards in the form of a higher score, additional shooters, and new levels to experience—in discrete, extraterrestrial spaces. There are tropes of

danger, violence, destruction, escape, commendation, and more, but the story is highly specific and linear. In fact, this specificity and linearity are announced overtly after the coin drop is activated and the game enters “ready to play” mode. In this mode, the player is presented with a putative spectrum of entry points—of beginnings to the story, essentially—ranging from “Novice” to “Expert.” One can choose the path of the rank amateur, the seasoned veteran, or the hardcore player. Despite this range of multiple interpellative and narrative beginnings, however, *Tempest* is structured such that the player can only ever be part of a storyline that details an evolution of personal growth from relative novitiate (even if one starts on “Expert,” the difficulty level is quite low in terms of the game as a whole) to journeyman. One cannot revisit past tubes, circumvent upcoming ones, start beyond tube 11, or in fact do anything other than advance from one level to the next sequentially (save deciding not to accede to the game’s demands and watching the shooter be destroyed). For such a visually abstract game, the story is surprisingly non-abstract in its parameters, representations, and repetitions. It has one arc, one way of unfolding, and, for the most part, one ending: the destruction of the shooter.

As we noted above, *Tempest* is also a Shoot ‘Em Up. The game’s principal play objective is to clear the playfield of enemies by attacking them, either with the primary weapon or the Superzapper. In fact, it is impossible to survive even the first level without doing so, as the Flippers—the first enemies to appear in the first tube—will eventually reach the near end of the tube and pursue the shooter until it or they are destroyed. In this respect, *Tempest* reproduces the logics and design of the archetypal Shoot ‘Em Up. Like *Asteroids* (1979), *Space Invaders* (1978), and *Galaxian* (1979), for example, *Tempest* forces participation by bringing the action to the player. There is no escape from conflict with the enemy, regardless of a player’s personal play style, goals, or desire. Eventually (and typically quickly) the shooter will be eliminated by one of the game’s manifold threats.

Tempest intensifies this ineluctability, this unavoidable trajectory toward combat, through the implementation of its playfields. The tubes are a visual representation of the drive to conflict. Their clearly demarcated and inescapable boundaries keep the tantalizing possibilities of off-screen space (Where are the enemies coming from? What lies beyond the borders of the tubes?) and its potential freedoms (e.g., escape, aversion, pacifism) at bay, concentrating and overdetermining the inevitable strife in the visible and contained geometries of the tubes. The only escape from this containment and channeling into conflict is the transition from one tube to the next,

which of course reinscribes the conditions of play and the impending clash. More precisely, off-screen space is simply a path to more challenging and equally contained on-screen encounters.

Tempest similarly borrows the evaluation metrics and play conditions of its Shoot 'Em Up predecessors. As with *Asteroids* or *Space Attack* (1979), for example, the player's score is principally a factor of threats neutralized (or, in the case of the spikes that the Spikers leave behind, potential threats diminished).⁴ There is no bonus for threats avoided, speed of level completion, hit percentage, or the like. Likewise, there is no game clock, and the only time pressure is that imposed by the number of enemies on the screen and thus the number of successful player actions required to survive at a given moment. Finally, the game's levels get progressively harder. In addition to the emergence of new enemies over the first set of tubes, enemies in general appear more quickly, there tend to be more of them on screen at any given time, and they work more diligently to trap and terminate the shooter. As in *Space Invaders* and *Galaxian*, score is also an index of level achieved, of difficulties mastered. It is a measure of accomplishment that directly reflects a narrative of progress and also of time spent with the machine.⁵

Just as *Tempest* diverges from (and also exemplifies) the qualities of the Abstract game, so too does it play with the conventions of the Shoot 'Em Up, at least as they were embodied in the late 1970s. Principally, this is due to the game's abstract imagery. Prior to *Tempest*, Shoot 'Em Ups typically attempted to pull from and reproduce easily recognizable semiotic domains from popular culture (e.g., outer space, the old west, naval machinery, and warfare). These domains might be referenced in a game's title (e.g., *Cosmic Monsters* [1979]), depicted in the diegesis (e.g., the battleship and submarines of *Deep Scan* [1979]), or appear as cabinet art (e.g., *Astro Wars* [1979]), and they functioned to 1) mitigate the graphical and computational limitations of the day's technology, 2) evoke a play world that could be easily entered without the need for much backstory (and thus offer an immediate experience for money deposited in the machine), and 3) call out to potential players from within a sea of distractions (e.g., other machines, players, activities). More importantly, these domains accessed parts of the popular cultural fund that had come to emphasize combat, survival, or both: alien invasions, inhospitable landscapes, interplanetary exploration, and so forth. Consequently, *Tempest's* antecedents were designed to overdetermine and expedite a specific immersive play experience.

Tempest, by contrast, is generally more oblique in the sign systems it

references. As we described in chapter 1, the visual design of the game flows from Euclidean geometries and Italian Renaissance one-point linear perspective, with math-derived shapes and a classical apportioning of space. However, the game does not specifically evoke this particular intertext. There are no visual, aural, or even interactive elements that concretely express a Greco-Roman typology of signs, symbols, and ideologies. Rather, *Tempest's* connections to Ancient Greece and the Italian Renaissance are indirect and subtle, allusory more than overt. The intellectual and aesthetic articulation to those eras is there, certainly, but not as shorthand and not as a way to inject the player into an instant and nearly viscerally recognizable environment. In this respect, *Tempest* is almost anachronistic, or displaced in time, compared to its predecessors. Unlike *Space Wars* (1977), for example, in which there is a direct temporal, spatial, and aesthetic connection to the world of the *Star Trek* television series—one of the ships in the game is clearly patterned after the U.S.S. *Enterprise*—*Tempest* is largely disconnected from the iconographies of Ptolemaic Greece and 14th- and 15th-century Italy. One would be hard pressed, in fact, to place it aesthetically or thematically in either of those eras, or even contiguously to them. The game is far too abstract and futuristic, as well as arepresentational.

And yet, *Tempest's* logics are also clearly derived from those eras' conceptions of space and their artistic and symbolic representation. There is the symmetrical perfection of the vanishing point, for example, and its symbolic as well as practical importance to the work and its narrative: in *Tempest*, the vanishing point is the place from which threats emerge (and is thus the source of play, if not its locus) and where the avatar must travel eventually. There are also the singular geometries of the playfields and their occupants, which embody—in an updated and fantastical way, obviously—a number of Euclidean principles and axioms (e.g., “Things which are halves of the same thing, or of equal things, are equal to one another” [Hall and Stevens, 7]). In essence, then, *Tempest* both calls out to and distanciates its thematic and iconographic origins, venerating them without necessarily depending on them for semiotic and narrative weight. The result is a generic object that simultaneously reifies and disturbs the stylistic conventions of the genres it primarily occupies, the Shoot 'Em Up and the Abstract game.

One final example of this paradox, and a means of transitioning from our discussion of *Tempest's* genealogy to an exploration of the game as a harbinger, can be found in the relationship between the software's aesthetics and the promotional/decorative designs applied to the cabinet that



Fig. 14. *Tempest* cabinet/side art aliens (Tempest © 1981 Atari Interactive. All Rights Reserved. Tempest is a trademark owned by Atari Interactive, Inc. Use of Tempest images and trademark are provided under license by Atari Interactive, Inc.)

houses them. In contrast to the abstraction of the game itself, the cabinet art is fairly concrete, illustrating what appears to be a clutch of malevolent, humanoid aliens materializing in outer space.⁶

In keeping with the tradition of the Shoot 'Em Up, one might reasonably conclude from the cabinet that *Tempest* involves a confrontation with these aliens, and to a certain extent this is the case. As we documented above, conflict is key to the game's play, and there is a definite and persistent malevolence to the game's enemies. They seek confrontation even if the player does not. However, there is also an aesthetic disjunction between what the cabinet artwork suggests and what the game delivers: the shape of the avatar matches that of the outstretched claw of the proximate and most prominent alien displayed on the cabinet, which works to complicate rather than clarify the narrative of threat and defense underpinning the game's play. Is the player defending against an invasion—as the hostile aliens on the cabinet would seem to suggest—or part of one, given the graphic match between the avatar and the alien claw? Alternatively, is the player fighting against an external threat—an alien horde—or engaged in a civil war with fellow creatures? Either way, the answer is unclear; as a result, the cabinet artwork winds up being both representative of the game and also not so. It depicts an inhuman menace but does not clearly position the avatar (and by extension, the player) in terms of that menace. In effect, the cabinet hails the player into a game world that is then problematized rather than reified by the game itself, something quite unusual for games at that time though more common today (e.g., game boxes or trailers that highlight set pieces or play segments that turn out to be only incidental to the game's overall play and narrative experience).

Tempest broke with tradition in other ways too. In playing with con-

vention, it also established it, offering stylistic and play elements that are now part of the everyday of video game design and play. In the following section, we discuss a number of these elements and their echoes in game history and culture, focusing primarily on *Tempest* as a harbinger of 1) new player-game relations, 2) an ideological and narrative deepening of the screen, and 3) a more elastic game environment.

Tempest as Genre

In chapter 1, we outlined and contextualized *Tempest's* innovations principally in terms of the Atari coin-operated line. It was a unique game for the company and debuted a number of new technologies (e.g., the Wells-Gardner Color X-Y Display vector-generator monitor) and approaches to play (e.g., the user-selected starting level). Part of what makes *Tempest* a landmark game, however, is the resonance these innovations had beyond Atari's machines and the arcades that contained them. A case in point: today's ubiquitous three-dimensional video gameplay owes much to *Tempest's* surprising success. The game showed that the illusion of depth—even in a non-representational setting—could be highly commercial, something earlier games (e.g., *Night Driver* [1976]) were not able to do quite so convincingly.⁷ While previous titles offered three-dimensional play, *Tempest* was able to do so on a grand and commercially successful scale. It was a popularizer of the perspective, and thus a progenitor.

At the same time, *Tempest* also toyed with the aesthetic and ideological possibilities of three-dimensional play, appearing to offer both a bounded and an open play space. On the one hand, the game's avatar is expressed as a fully rendered, two-dimensional object located on the edge of a three-dimensional playfield. We say "fully rendered" here because there are no obvious in-game audio-visual articulations between the avatar and an off-screen object or host. The yellow, simple, non-convex, eight-sided polygon of the shooter appears as a discrete, on-screen object whose relationship with other objects in the game—enemies, their attacks, and the playfields on which the action occurs—is organized solely in terms of the game's collision detection system as it is manifested on-screen. More simply, *Tempest* offers a third-person point of view of the game world, a point of view that encapsulates the action.

On the other hand, the cabinet artwork implies that the avatar is not a discrete object but perhaps the visible terminus of an alien being that exists off-screen (i.e., the disembodied hand common to the first-person shooter).

The graphic match of the shooter and the claw of the most prominent alien depicted on the cabinet creates a visual dynamic that locates the avatar beyond the screen, in the physical space of the player. In this case, the shooter is not a discrete object at all but a part of something larger, an embodiment of agency positioned as the player (or at the very least in the same extramachinic space as the player). In other words, *Tempest* also seems to present a first-person view of the game world, with the player effectively reaching into or being surrounded by the space of the tubes.

This multiperspectivalism is noteworthy for several reasons. From a generic perspective, the articulation of multiple ways of seeing has become almost elemental to game design and play. The practice of deploying differently accessible possibility spaces within a single game is today virtually ubiquitous, with titles of all sorts overtly engaging their players on a variety of visual and immersive levels. First-person shooters such as *Halo: Combat Evolved* (2001) and *Borderlands* (2009), for example, often include third-person play segments in which players drive vehicles or do other game work in addition to that required by the primary game mode (i.e., shooting). Similarly, many predominantly third-person genres such as platformers have first-person play as well (e.g., *Billy Hatcher and the Giant Egg* [2003], *SpongeBob SquarePants: Battle for Bikini Bottom* [2003]), not to mention the option for the player to move between third- and first-person perspectives in order to get a better look at something or target an object (e.g., *Ratchet & Clank: Going Commando* [2003]).

From an industry standpoint, the reason for multivalent play seems straightforward: diversifying the play experience can help increase seat time (i.e., the amount of time a player spends with a game), broaden the game's potential audience, and combat player desire for new experiences (and thus new games). Similarly, from a design standpoint, multiple player perspectives enable different means of storytelling and therefore additional opportunities for player engagement, reflection, and sense-making. Simply put, what was implied but inchoate in *Tempest* is now a well-defined and well-used commercial, aesthetic, and interactive instrument.

In chapter 1, we unpacked the novelty of *Tempest's* Skill-Step play system. That vision of player-game relations and dynamism bears further discussion here because play customization has become nearly intrinsic to the video game medium. Indeed, it is rare to find a game today that does not invite the player to personalize the play experience in some way, from selecting play difficulty (e.g., *Gears of War 3* [2011]) to customizing an avatar's appearance and item loadout (e.g., *Army of Two* [2008]) to choosing

how to engage with NPCs and the narrative framework generally (e.g., *Fable II* [2008]). Games have become pointedly dialectical, expressly asking players to collaborate directly with developers on the end experience.⁸ True, games of all kinds (computer-mediated and otherwise) are inherently multi-authorial, for without player action, choice, and style there can be no game.⁹ However, there is a distinct difference between playing within the rules of a game and changing them outright. Imagine if a professional soccer match were to begin with the players choosing the match's difficulty level or being given the option to significantly personalize the play equipment. And yet, this is precisely what video games now often do: they invite players to express themselves through game structure, not just in gameplay. In the wake of *Tempest's* Skill-Step system, player authorship—not merely the playful collaboration between developer and player found in any game—has become a basal part of the design and play experience.

Tempest's Superzapper, too, reverberates through video game history and design. It is an obvious and primal implementation of the hyper-ludic weapon, a leitmotif of the Shoot 'Em Up (e.g., *DOOM's* BFG 9000 [1993], *Gears of War's* Hammer of Dawn [2006]). As Steven Conway notes, video games often “maintain varying degrees of ludicity” (2010, 135), of the potential for gamic objects and playful decisions “to act or have an effect upon the gameworld” (ibid.). Whereas contra-ludic phenomena retard “the capability for action, and thus in many cases the ability [of the player] to be an effective agent within the gamespace” (ibid.), hyper-ludic phenomena enhance the player's power, enabling new forms of and opportunities for agency (albeit often only temporarily). *Tempest's* Superzapper is just such a device: it destroys virtually all on-screen threats with a single deployment and in the process expands the game's playful possibilities. Of importance here is the plasticity the Superzapper enables. It imbues a certain dynamism, a certain fluidity, to the parameters of play. Standard operating procedures (e.g., one shot, one kill) can be upended, which stretches the interactive and meaning-making possibilities of the game. For instance, one need not fear an unstoppable enemy onslaught or cunning trap, both of which are core elements of *Tempest* and the Shoot 'Em Up generally. There is always a simple, powerful, and expeditious solution (provided the player has been skillful, judicious, and lucky, of course): the total and instantaneous annihilation of threat. As Conway explains, “Hyper-ludicity is empowerment. It is an enlargement of effectance and expansion of play” (2010, 143). In the case of the Shoot 'Em Up, the hyper-ludic weapon extends the narrative and agential potential of the principal but limited game

mechanic: shooting. With the Superzapper—or later the BFG 9000 and Hammer of Dawn—shooting and its consequences become extraordinary. They are transformed, as are their experiential, ideological, and narrative implications.

Finally, *Tempest*'s distinctive physical interface—or rather, the illusion of freedom of movement the control-panel knob and its virtually endless spin suggest—foreshadowed the openness common to contemporary play worlds. From sandbox games with their option to ignore structured play objectives in favor of exploration and player-generated goals (e.g., *Grand Theft Auto: San Andreas* [2004]), to MMORPGs with their enormous, changing landscapes and fluid social structures (e.g., *World of Warcraft* [2004]), the video game medium today is abundant with expansive and seemingly open-ended play opportunities. Anything can happen, games today suggest; the medium and its pleasures are boundless.

Needless to say, there is a disconnect between this suggestion and reality. While modern games are undeniably capable of offering vast play, their affordances are yet circumscribed by game engines and the hardware on which they run. The expressive and playful openness on offer are in fact illusory and exist only in terms of what is mechanically possible. Yet, the promise of limitless effectance is integral to how games are often designed and sold. “Play it your way” and “Go anywhere, do anything,” *Far Cry 2*'s (2008) box proclaims, guaranteeing “[o]pen world gameplay [that] gives you total freedom to play the game you want in a world totally without limits.” The appeal here is both paidiac and ludic, to use Roger Caillois's terms, espousing “uncontrolled fantasy” (2001, 13) but in the context of the “effort, patience, [and] skill” a large and complex game requires (ibid.). *Tempest* made similar appeals decades ago, its bidirectional and seemingly frictionless control knob heralding the possibility of a transcendent mediated experience. That is, *Tempest* demonstrated that even the most constricted and limited of play spaces could offer the willing player a sense of “total freedom,” even if the reality was something quite different.

Conclusion

In this chapter, we have focused on teasing out the generic conventions *Tempest* embodied, expanded upon, and initiated. We used as our base, Wolf's taxonomy of game genres, arguing for it as a robust, precise, and surprisingly nuanced classificatory instrument despite its limitations and the general difficulty of grouping video games by genre. We then applied

this instrument to *Tempest* directly via the Abstract and Shoot 'Em Up genres, confirming as well as problematizing the game's aesthetic and interactive heritage. Finally, we discussed *Tempest* as a genre itself—or rather how its once unusual offerings have become pan-generic—and explored the ways the game's relationship to the player, treatment of the screen as portal and display, and physical and aesthetic environment are almost de rigueur today.

Key, now, is to expand the discussion beyond immediate questions of textuality. It is not enough to know in detail *how Tempest* is, but *why* it is. What are the specific material and cultural contexts from which the game's textuality flows? We take up these broader contexts in chapter 3 and work to document the social, cultural, and industrial environment that produced *Tempest* and directly contributed to its landmark iconography and play. As part of this documentation, we also explore the game in terms of designer Dave Theurer's oeuvre and focus on the overarching interactive as well as aesthetic sensibilities of his *Missile Command*.