

## Alone for All Seasons: Environmental Estrangement in S.T.A.L.K.E.R.

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Figure 1. CNPP Reactor Four after the accident.

The explosion shattered a quiet, cool April night in Ukraine, ripping through the housing that concealed the uranium and graphite pile of Chernobyl Nuclear Power Plant's Reactor Four. The men in the control room had known of a problem for a few moments, but their frantic attempts to bring it under control had failed. Flaws in the design reduced the flow of cold water into the reactor during a safety test, allowing it to boil its reserves of liquid coolant. A 2,000 ton steel-reinforced concrete roof was no match for the explosively expanding vapor. It ripped the lid off the reactor as easily as a frustrated child losing a game might flip a checkerboard, catapulting the entire assembly 400 feet into the sky. Searing steam rushed out, replaced by crisp spring air. With a sudden abundance of oxygen to burn, the graphite in the reactor pile erupted into flames. The uranium fuel rods melted into molten slag as the blazing fire hurled nightward a black column of radioactive soot. And so began, at 1:23 a.m., on April 26, 1986, the greatest radiological disaster in the history of humankind.

"Close the window and go back to sleep," Vasily Ignatenko told his wife. "I'll be back soon." He was a firefighter on duty in the nearby city of Pripyat. Along with his colleagues, Ignatenko was among the first emergency crews to respond to the explosion. All they knew was that there was a fire at the power plant.

Of her husband's brief hospitalization in Moscow, Lyudmilla Ignatenko would say, "pieces of his lungs, pieces of his liver, were coming out his mouth. He was choking on his internal organs. I'd wrap my hand in a bandage and put it in his mouth, take out all that stuff."

Vasily Ignatenko died less than a month after the Chernobyl incident. No first responders would survive the year. No one warned them the fire was radioactive. No safety equipment was issued. No Geiger counters were available. In their hurry to help, many of Ignatenko's squadmates had arrived in shirtsleeves, without even their firefighter's gear for protection.[74]

Within four months, the entire city of Pripyat, population 50,000, and dozens of surrounding towns and villages had been evacuated. In total,

30 square kilometers around the Chernobyl Nuclear Power Plant's doomed Reactor Four were emptied and sealed off. Considered more toxic than anywhere else on the planet, the forbidden region is known as Чорнобильська зона: the Zone of Exclusion.[75]

21 years later that Zone, so removed from the world we live in, would help catalyze a game design technique with the power to shepherd players to expansive new realms of immersion.

Figure 2. The Chernobyl Exclusion Zone.

#### Into the Breach

In 2001, Ukrainian developer GSC Game World announced S.T.A.L.K.E.R.: Shadow of Chernobyl. Originally titled Oblivion Lost, GSC envisioned an open-world science fiction shooter set in an alternative Exclusion Zone – in which a second explosion at the reactor greatly expanded the size and personality of the Zone, and altered reality in the region. It allowed the power plant itself to become sentient: an alien, incomprehensible intelligence that would come to be known as the C-Consciousness. And what is a brain without a body? The Zone itself would fill that role.

Another result of this event was the appearance of “anomalies,” pockets of roaming, reality-bending energy. Anomalies can misdirect time, invert gravity, emit bursts of heat or electricity, even teleport matter. Many are almost invisible, and human contact with nearly every kind causes extreme injury or death. Anomalies, in addition to scattered radiation and the sudden appearance of ferocious mutants, meant traversing the Zone of S.T.A.L.K.E.R. would be a hazard in and of itself.

However, that danger comes paired with irresistible temptation. Anomalies “throw” objects with fantastic, impossible physical properties, artifacts that violate all known laws of physics. Many are deadly or highly radioactive, and all are precious. Soon a black market trade springs up, as scientists and collectors offer massive bounties for the bizarre items. Collecting them requires putting oneself in incredible peril, but the prizes are worth it. Heavily armed treasure hunters swarm to the Zone, braving its many dangers in a radioactive gold rush. Even the military cannot stop the flood, whose lust for adventure and wealth drive them to the poisoned realm.

Those who come to this violated region face unbelievable hardships. The Exclusion Zone has always been guarded by the military, but when precious objects are discovered, the cordon is tightened. Soldiers have strict shoot-to-kill orders; horrifying mutants dominate the countryside; while radiation pockets and anomalies promise hideous death to the

careless. Deeper in the Zone are eerie, haunted territories and unexplained psychic assaults. None of it prevents dangerous, profit-minded adventurers from coming in. But of course the greatest danger to visitors is each other – society’s leavings, its unwanted. Men who come to be known as Stalkers, a nod to Andrei Tarkovsky’s eponymous film, itself a rendering of the classic Russian science fiction novel *Roadside Picnic*.

S.T.A.L.K.E.R. put players in the boots of men who sought wealth in a new and deadly wild world, one different from the Yukon or the old west – those places, after all, belong here. The Zone does not. Spawned from a terrible violation, the game envisioned it as an unnatural, unknowable place, beyond true comprehension, one that is inherently not of Earth – maybe even not of this universe – and certainly not for human beings. Soon enough a legend begins: tales of a final artifact, said to lurk deep inside the ruins of the power plant. According to rumor, any Stalker bold or foolish enough to brave that contaminated landscape and penetrate the concrete sarcophagus that entombs Reactor Four would find inside a power to grant all his wishes.

As the myth of the Wish Granter spread, the Zone became home to more and more of these prospectors. GSC Game World’s reinvention of the Zone draws the cruel, the violent, the avaricious, the hungry for adventure... and those who belong nowhere else.

“There was no place for me in that world,” one Stalker confides, referring not to the world of the Zone but to ours. “It didn’t want me.”

Figure 4. A railroad bridge shattered by an anomaly, near the military cordon in *Shadow of Chernobyl*.

#### The World Ends with You

Pre-release press was enthusiastic, but as development dragged on and target release dates were missed again and again, industry watchers grew ever more cautious. Nevertheless, when *Shadow of Chernobyl* was finally released in March of 2007, it received widely favorable reviews[76] despite significant bugs, poor optimization, and often-incomprehensible translation. General consensus was that for all of its shortcomings, *Shadow of Chernobyl* transcended them. Its boldness and innovation dwarfed the faults in execution.

Despite the rough edges, the S.T.A.L.K.E.R. series will be remembered as among the most groundbreaking and forward thinking games of the decade. Years before designers Cliff Bleszinski and Harvey Smith agreed that “the future of shooters is RPGs,”[77] S.T.A.L.K.E.R. stood alongside

Deus Ex and System Shock to set the stage and demonstrate the wisdom of that remark.

To my mind, S.T.A.L.K.E.R.'s most fascinating trait is its use of a technique I call environmental estrangement: a tool that allows developers to imbue games with a wider and subtler spectrum of emotions and an intensely powerful, intensely personal sense of immersion. While all games can evoke emotion and immersion, environmental estrangement virtually requires players to develop a much more acute connection to the game world, making the experience more intense and nuanced.

Let's be honest: games are not famous for their ability to evoke complex feelings. Simple ones, no problem. But the more subtle a feeling is, the harder time a game has making the player feel it. Sadness? Yes. Melancholy? No. Anger? Sure. Resentment? Probably not.

I believe environmental estrangement techniques can rectify that. Though the name "environmental estrangement" and the theory under discussion are my own, when used in commercial games like S.T.A.L.K.E.R., they make the player feel something much more strongly than most games can. This is accomplished by effectively divorcing the player from his or her own world and sense of self. The human player is taken out of the "real world" environment and placed into the world of the game. A player in this state is easy for designers to manipulate.

Environmental estrangement is about making you feel something; in the case of S.T.A.L.K.E.R., you feel a place – the Zone – on a very instinctive level. It builds an emotional connection with the game world, using a variety of experiences to create a persistent sense of forlorn detachment, a profound loneliness, an intense, solitary immersion so powerful that the player must experience the Zone

in a deeply personal way.

In a nutshell, S.T.A.L.K.E.R. uses environmental estrangement to snatch you from this world and put you into another one: one that is unwelcoming, unknowable; obscene. Yet despite this it also creates a need to be in that world, for all that you are unwanted. The player becomes part of the territory, not despite but because of the bleak, depressing emptiness of S.T.A.L.K.E.R.'s Exclusion Zone, the unnatural, ghostly quality that evokes a feeling that you're an uninvited visitor in a haunted and unreal place.

S.T.A.L.K.E.R. is not the only game I have observed that uses environmental estrangement, nor is the technique limited to making the player

feel lonely. A little later on we'll briefly discuss some other examples of games that use the same techniques to evoke different but equally subtle sensations. By divorcing the player from any preconceptions of a world, environmental estrangement grants developers a wealth of delicate tools with which to directly manipulate the player in complex and uncommon ways. I will discuss the S.T.A.L.K.E.R. games in the context of environmental estrangement, reviewing the narrative, experience, setting, and mood as foundations for how the technique can affect the player.

Please note that the following contains story spoilers that may impact a newcomer's experience with the games. At this writing, the S.T.A.L.K.E.R. series consists of three titles: *Shadow of Chernobyl* (2007), its prequel *Clear Sky* (2008), and *Call of Prip'yat* (2010). In general, when I refer to S.T.A.L.K.E.R., I mean the series as a whole; I employ installment subtitles to describe them individually. Some additional differentiations are also necessary:

- S.T.A.L.K.E.R. (in italics) refers to the game franchise
- S.T.A.L.K.E.R. is a narrative macguffin within it
- *Stalker* is the Tarkovsky film
- Stalkers are the individuals who prowl the Zone for riches and adventure

Finally, my experience with the series is limited to the North American localization of this Ukrainian title.

#### Where the Wild Things Are

It is difficult to clearly explain the narrative arc of S.T.A.L.K.E.R. The games jump around in time and often contradict one another. No one path can be considered canon, as the Zone's ability to alter time, space, and reality interferes with a linear storyline: characters that had been dead reappear, events that had been prevented nonetheless occur. But the story, however difficult to follow, is important.

*Shadow of Chernobyl* opens with a truck hauling a load of rotting corpses out of the Zone. Rain spatters the windshield as the Soviet-era vehicle trundles through a late-night rainstorm. Seconds into the opening cutscene, a lightning strike flips the truck headlong into a ravine, scattering its gory cargo through the canvas flap before exploding in flames.

Hours later, as dawn breaks, a Stalker crests the ravine at a run, proceeding downward to examine the wreckage and loot bodies for valuables. He is surprised to discover that one of the people from the back of the truck is alive, unconscious, and bearing a peculiar tattoo – S.T.A.L.K.E.R. – on his wrist. “At least death would have saved him from

the dreams,” muses this nameless arrival. He scoops the unconscious man up and trots off through the landscape, and thus you enter the game injured, penniless, and out cold.

Already in this opening cine-matic, we see environmental estrangement at play: a bleak and grim landscape, a transport for the dead, a heavily armed loner picking through wreckage for items of value. Solitude, death, and greed: key ingredients in S.T.A.L.K.E.R.’s soup.

That loner takes you to Sidorovich, a merchant who trades equipment, artifacts, and information with local Stalkers and clients from outside the Zone. Entrenched in a concrete bunker, Sidorovich always seems to know the latest news, and he is very interested in men with the S.T.A.L.K.E.R. tattoo. Though no one knows what it means, it only appears on Stalkers who have ventured deep into the Zone, an area so dangerous most consider it impenetrable. Those who go too far are usually killed by radiation, eaten by monstrous mutants, or shot by Monolith troopers – a psychotically religious faction of former Stalkers who worship the Zone, somehow trading their minds for the ability to survive in heavily irradiated areas.

Stalkers who avoid the radiation, mutants, and Monolith still die; an energy field of some sort literally boils their brains. Sidorovich and a loose association of other black marketeers recognize that the region beyond this “Brain Scorcher” would be virgin artifact territory, a fortune for the first to get there. Near the Zone’s heart lies the abandoned city of Pripyat, promising more riches; and beyond that the power plant, supposedly the home of the Wish Granter. Sidorovich has seen the S.T.A.L.K.E.R. brand before, but never on someone who is still alive. As he rummages through your clothing, he comes upon a PDA with a single to-do item: KILL THE STRELOK. At that moment you awaken, snatching the PDA from his hand.

The Marked One, as Sidorovich names you, cannot remember anything that happened to him before the accident. While amnesia in video-games is a common and ridiculed trope, it proves helpful here in order to conceal some key plot points, in particular who “the” Strelak is, and why the Marked One is supposed to kill him. The amnesia creates an empty vessel, reducing the importance of his character. Indeed, the real “protagonist” of S.T.A.L.K.E.R. is the Zone itself. If characters in narrative are primarily responsible for the evocation of emotional response, and assuming that a character can be anything[78], then certainly a place can take center stage as easily as a person. The Zone is the star of this show.

S.T.A.L.K.E.R. was disorienting to many gamers, who by 2007 had developed certain expectations for how first person shooters were to be played. Traditional shooters typically offer one path, or at most a few; these are often recursive so it's impossible to really get lost. The environment itself is usually little more than a backdrop designed to showcase set-piece occurrences such as battles or puzzles, and in most cases players never return to areas they have visited. Even the most beloved first person games – Thief: the Dark Project and Half Life 2, for example – essentially herd the player in one direction, through predetermined missions and carefully crafted level design. S.T.A.L.K.E.R. is nothing like that.

When you leave Sidorovich's bunker, you can go anywhere. Eventually hills or fencing or radiation or the ever-present military will cut you off, but there are no corridors here. The vast majority of S.T.A.L.K.E.R. takes place outdoors, with all the freedom thereof. This too is part of the effect that S.T.A.L.K.E.R. has on most players: here at the outset, in Shadow of Chernobyl, you are unarmed, without friends or contacts, in a dangerous countryside, with just the vaguest idea of where to go or what to do once you get there. "Kill the Strelak" is the only guidance you've got, and while Sidorovich reveals that there is a Stalker by that name, no one seems to know where he might be or why you'd want him dead. From this moment forward, one word will define your time in the Zone: aloneness. Even in the company of other Stalkers, the persistent sensation of forlorn solitude dominates the experience. That sense of aloneness, of desolation and isolation caused by your surroundings, is environmental estrangement at its best: use of the game environment and tropes within it to affect your mindset as a player and subtract you from your conscious awareness of real-world surroundings.

The Zone maintains a viselike hold, not only on the Marked One, but on all Stalkers. "God knows how long I've spent here," sighs Wolf, a friendly Stalker early in the game. "But it's like this place doesn't want to let me go."

About halfway through Shadow of Chernobyl the player learns that Strelak and the Marked One are the same person; you are the man you are trying to kill. Strelak was obsessed with the Wish Granter, a mania that drove him to sacrifice anything to reach it and tame the power it promised. He had made great progress toward that goal, until he was struck with amnesia and forced to essentially start his quest again. But he

fails to realize that the Zone is not simply a place. It is a thing – a living thing – that knows what Strelak is up to, and despises him for it.

That Strelak is alive at all was an error on the part of the C-Consciousness, the sentient entity spawned from Soviet-era experiments in mind control. It occupies the power plant and a network of secret laboratories; it is the mind and the Zone is its body. It brainwashes or kills anyone who comes close to discovering it, marking the corpses as S.T.A.L.K.E.R.s - scavengers, trespassers, adventurers, loners, killers, explorers, and robbers. The tattoo is a scarlet letter left behind on unwelcome intruders as a warning to the others. The brainwashed are programmed to perform tasks of its choosing. The C-Consciousness seized Strelak moments before *Shadow of Chernobyl* begins (the climax of the prequel *Clear Sky* details Strelak's capture). Not realizing who he was, it wiped his mind and sent him off to kill... Strelak, a Stalker the C-Consciousness knew was on the verge of discovering it. And as something alien and unknowable, it does not think of humans as equal entities – just as we would say “kill the mouse,” so the C-Consciousness wants to kill the nuisance. The game's seven endings, based on decisions the player has made throughout, dictate Strelak's fate.

The subsequent *Clear Sky* and *Call of Prip'yat* are of great value for understanding the Zone as a character and the nature of the Stalkers who live there. *Clear Sky* is set a year before the events in *Shadow of Chernobyl* – well after the 1986 meltdown and GSC's subsequent fiction, but before the C-Consciousness has set up the Brain Scorcher to protect itself. In *Clear Sky* you play a mercenary Stalker named Scar. Injured at the beginning of the game, he is rescued by the mysterious *Clear Sky* organization, a scientific team dedicated to study of the Zone. The group believes that recent occurrences in the Zone have been caused by the region reacting to a perceived threat – which we know to be Strelak's pre-amnesia exploits as he and his allies attempt to reach the power plant.

Even without the Brain Scorcher field, the Zone can protect itself. Its primary defense mechanism is a blowout, or emission – a colossal radiation storm originating from the power plant. Blowouts are terrifying; the sky bruises, the air itself turns angry scarlet as the earth shakes and thunder rumbles. They are deadly, driving animals before them, killing anyone and anything that cannot find shelter. Minor blowouts can be daily events, but massive ones have a sinister purpose. With each major emission, the Zone changes. Routes that had once been safe become irradiated, dangerous paths open up, anomalies move around and throw new artifacts. *Clear Sky* has learned that Zone is getting larger with each



serious blowout. The organization believes that coexistence with the Zone may be possible, but that behavior like Strelok's is antagonizing it and threatening the possibility that something as alien and unnatural as the Zone will tolerate humanity. Strelok's invasion has caused instability. All that matters to him is reaching the Zone's toxic beating heart, the power plant. The Wish Granter, and the power it promises, drives him ever forward; so forward he goes, ignoring the ruin he leaves in his wake. Like an immune system responding to a virus, the Zone is defending itself.

Environmental estrangement allows GSC Game World to separate the player from normal reality and immerse him or her in the Zone. It is portrayed as an incomprehensible entity, completely beyond human capability to understand or manage. The Clear Sky organization's goal – coexistence – may be the only realistic solution for the presence of the Zone in this world, and may also be fueled by the revelation in *Call of Pripjat* that much of Clear Sky's leadership was once involved in the research that led to the appearance of the C-Consciousness in the first place. But coexisting with something so alien, particularly when provoked by Strelok's actions, becomes impossible. At the prequel's climax, the organization's philosophy of coexistence leads to the utter ruin of Clear Sky and the deaths of everyone involved with its activities. Strelok's view – that the Zone is a treasure to be dominated and controlled – threatens to destroy him and change the Zone completely; creating the world we visit in *Call of Pripjat*.

Most critics consider Clear Sky a disappointment compared to its predecessor[79], but the environmental estrangement remains effective, evoking that eerie loneliness in the player, despite Clear Sky's intense focus on interaction with other Stalkers. This prequel's Zone has many more people, and your character works with them regularly. The revelation of Clear Sky is its presentation of the Zone as a malicious living thing, yet one that people willingly seek out, and become attached to once there. Moreover, it shows the pointlessness of existence in the Zone, as faction wars drag on and corpses pile up. More than once the player must watch friends fall and bullets fly as Stalkers fight over petty philosophy or territorial squabbles. Nothing here matters, everything is poisoned; it's all worthless. And thanks to the potency of environmental estrangement, the player is able to easily feel this complex, layered emotional connection to the issues of the game. Those "precious" artifacts Stalkers risk everything to collect are so dangerous that even carrying one around can result in a lethal dose of radiation. The

bleak, empty land-scape highlights the heartlessness and cruelty of life in the Zone, where men kill each other as though this crumbling building or that derelict factory were strategically worthwhile.

Clear Sky took us back a year, and set up the events in Shadow of Chernobyl. Call of Pripjat, meanwhile, tells the story of what happened in the Zone just moments after the first game ended. At the climax of Shadow of Chernobyl, the player had disabled the Brain Scorcher, eliminating the barrier that kept Stalkers from getting too close to the power plant. With the Scorcher offline and promise of the Wish Granter beckoning, the race is on: hundreds of Stalkers pour into Pripjat, each intent on reaching the ultimate treasure first. Warring factions, Monolith's zealots, personal enmities, and individual avarice reduce the city to a lunatic war zone. Outside the power plant itself, the running gun battle becomes even more chaotic. The Ukrainian military has seized this sudden concentration of Stalkers as an opportunity to kill as many of them as it can, and so dispatches heavy attack helicopters and tanks. For its part, the C-Consciousness emits a colossal blowout that completely reshapes the Zone.

Where Clear Sky had the player exploring the same general areas of the Zone, Call of Pripjat features three completely new regions, which had been inaccessible until the latest emission. Stalkers waste no time moving in and setting up new camps. In this third installment, you play a Major in the Ukrainian military who agrees to go undercover as a Stalker to learn the fate of five attack helicopters that went down during the climactic moments of Shadow of Chernobyl.

Call of Pripjat takes advantage of new technologies and lessons learned from earlier games to further refine the Zone's inherent desolation and loneliness. Early-morning trudges through misty fens, nighttime mutant hunts, encounters in the rusted hulks of beached freighters abandoned in 1986 disaster make Call of Pripjat a more introspective game than its predecessors. The player explores abandoned villages and haunted rail terminals; the eerie ruins of Jupiter Station, a massive radio factory; and finally Pripjat itself, visited only briefly in Shadow of Chernobyl. The evolution of the S.T.A.L.K.E.R. games is clear in Call of Pripjat, in which GSC Game World was finally able to implement mechanics that had long been intended: the game's remarkable artificial intelligence, moving anomalies, and blowout-fueled changes to the world as a whole.

Slower-paced, Call of Pripjat is a meditative experience. It retains Clear Sky's rumination on violence and aggression, while all three games

make a concerted effort to exclude any sense of comfort or security. Throughout all three games, diegetic sound is key to this: the loneliness of a wind gust, the far-off bark of a dog, the whale-sounding call of loons deep in the Zone, all make you relish and suffer the loneliness created by the game. But efforts to exclude the player from any sense of home or comfort do not end there.

GSC Game World was hardly unaware of the bleakness of the world it created, and maximized its impact with every sensation. Much of S.T.A.L.K.E.R.'s soundtrack was created for the game by Ukrainian death metal band Firelake, of which GSC Game World marketing director Oleg Yavorsky is a founding member. But in a departure from the roar-intensive shriekery of traditional rhythmic death metal, Firelake demonstrated its versatility, producing lonely flute and string numbers, lingering ballads, and environmental tones designed explicitly to evoke emotional response. Consider some lyrics from the series theme song *Dirge for the Planet*, a hauntingly apocalyptic composition that speaks, perhaps, of a world entirely engulfed by the Zone[80]:

The seas overdumped,  
the rivers are dead,  
all planet's cities turned a deserted land  
annihilation declares its day [...]

Dancing on the ashes of the world  
I behold the stars.  
Heavy gale is blowing to my face  
rising up the dust.  
Barren lands are desperate to blossom  
dark stars strive to shine.  
Still remember the blue ocean  
in this dying world

Throughout the evolution of the series, even as GSC has experimented with new mechanics, new interfaces, and updated play styles, the developer's vision of the Zone has never changed.

It all comes down to the Zone. The Zone produces these artifacts that Stalkers fight and die for, and the Zone, by its very existence, provides a haven for violent men to do violence. A player willing to give himself wholly over to the world of the Zone will experience this environmental

estrangement on a very conscious level, as everything in the S.T.A.L.K.E.R. games is designed to remind players how alone they are.

The storyline, characters, and even music of the S.T.A.L.K.E.R. series adeptly connects the player to the environment by removing him from reality, enhancing the feel of the world. This structure allows the series to comment on specific themes. Overall the morality tale of S.T.A.L.K.E.R. is a commentary on greed, on incomprehensible entities, on connections men form with places. By linking the player to the land as effectively as the Stalkers themselves are tied to the Zone, GSC creates a world and a fiction that, however circuitous, does help the player feel for the people, the place, and even the C-Consciousness, to whatever degree a person is able to empathize with something so decidedly alien.

We have seen how the storyline, characters, and even songs can act as tools of environmental estrangement to closely control player immersion; let's now look at the manipulation of two other key elements: setting and mood.

#### Magnificent Desolation

The very word "Chernobyl" evokes an emotional response in most people. It remains contaminated to this day; during the desperate weeks immediately after the explosion, radiation from the fire reached nearly every point on the globe. Soviet-era secrecy caused misconceptions about the scope and seriousness of the disaster, with no agreed-upon findings of deaths or long-term effects. The official Soviet tally is 56 dead.[81]

Meanwhile, a Greenpeace study claims 258 within a few weeks, 4,000 by year's end, 93,000 by 2006, and more than 140,000 all told.[82] Those numbers are not the most pessimistic: recently three Russian scientists published an exhaustive report based on hundreds of sources, claiming that 985,000 have already died.[83]

The truth is no one knows. No one can know. How many has Chernobyl killed? Impossible to say, because Chernobyl is still killing. It will continue to kill for generations, as mothers and fathers pass tainted genes on to their offspring. As such it has taken on an unholy significance with some, a specter of nuclear dangers not fully understood.

Today, the Exclusion Zone is safe to visit, to a point. An unknown number of people live there, having either returned home after the evacuation or never left in the first place. Still, it is reasonable to remark that the area is largely abandoned and will remain so for a century or more. Chernobyl is the Eastern European version of Centralia, Pennsylvania, the nearly deserted town under which a coal fire has raged since 1962.[84] A handful of people remain there as well, intentionally cut off from the world. No post, power, telephone, not even a ZIP code remains to identify Centralia. Settings such as these – derelict, forgotten, cast off,

haunted by history and abandoned by most, are ideal fodder for game worlds in which the environment itself is an emotional affecter.

Theoretically speaking, developers could apply environmental estrangement techniques to any location. Bearing in mind that the objective of the technique is to make the player feel something at a primal level by first removing them from their present environment, making it work is really a matter of creating an immersive experience. In the case of S.T.A.L.K.E.R., a great deal of firsthand research allowed GSC's world-crafters to sample the flavor of the real Zone and transmit it into their game. For Kiev-based GSC Game World, it was an easy matter to visit the Exclusion Zone. Many landmarks and geographical features that appear in the game mirror real-world locations. The poisoned realm of Chernobyl is an actual place, a place the developers went to great effort to model. In accomplishing this, they were able to transplant the much commented-on feeling of loneliness that exists in the real Exclusion Zone. Visitors have described the eeriness of the region[85], sometimes speaking at length about how they felt disconnected from the rest of the world while there. Capturing this sensation in a digital medium is not easy, but the results when successful are striking.

As it happens, S.T.A.L.K.E.R. removes the player from his or her own world and places them in one permeated by the sensation of melancholic loneliness. One

of its most impressive achievements is that it makes the player feel alone (and lonely) regardless of actual company. S.T.A.L.K.E.R.'s world is not overrun with people, but it is reasonably crowded. The Zone is not so large that the player will go hours without seeing another person. Later segments of all three games are downright bustling. The madness in Prip'yat and outside the power plant in Shadow of Chernobyl are nothing short of chaotically populated, with hundreds of Stalkers, soldiers, and Monolith fighters exchanging gunfire. But the sense of loneliness endures.

#### Mad World

Hand in hand with setting is mood. Where you are is important, but the critical key to making environmental estrangement work is how the place makes you feel. In S.T.A.L.K.E.R., it makes you feel lonely (other games use environmental estrangement to create different sensations, which we will discuss later). Chernobyl, empty and legendary, is a natural setting for a game, particularly a lonely one. It might seem that with so much history surrounding the place, environmental estrangement would be part and parcel of the experience, but Chernobyl alone is not

enough. Call of Duty 4: Modern Warfare and Modern Warfare 2[86] both feature missions set in the Exclusion Zone, but the sensation of the place is very different than that in the S.T.A.L.K.E.R. games. It feels much more like a traditional action setting, with only the crumbling buildings and occasional landmarks to distinguish it from any other generic location. In a game world, atmosphere dictates player state of mind.

From the moment you take control in S.T.A.L.K.E.R., the game's vision of the Zone bombards you with visual, auditory, and experiential cues designed to separate you from the world of the present. Leaving the ramshackle encampment where rookie Stalkers gather their courage before venturing out into the Zone's dangers in Shadow of Chernobyl, you crest a hill and encounter your first anomaly. It's nothing more than a localized distortion; about the size of a phone booth, nearly invisible, just a sort of... wiggle in the air. It is the middle of the day as you stand on a pitted asphalt street. Though the Newbie Camp of 20 or so souls sits less than a football field's distance behind, there, just over the next ridge, looms the Zone in all of its unearthly and terrible beauty. Any player who stands on that rise cannot escape the shivering sense that they are suddenly and truly on their own.

Sometimes the smallest things in S.T.A.L.K.E.R. evoke the strongest reaction. Every now and then a breeze whispers by, carrying leafy flotsam and dust. Odd as it may seem, that puff of wind alone is sufficient to make many players shudder

with loneliness. A rainstorm soaks a group of Stalkers trudging through a swamp as the mournful yowl of a stray cat echoes nearby. Two rookies warm themselves around a trash fire, one strumming a tune on an acoustic guitar. Gnarled trees point like arthritic claws to the sky, their bases wreathed in mist. Crumbling homes speak of the lives hurriedly abandoned in the days after the disaster. In many areas of the Zone, derelict buildings serve as crude encampments or faction bases, while a labyrinth of irradiated and abandoned cleanup equipment – trucks, fire engines, backhoes, busses, even the odd helicopter – crouches next to mountains of half-buried steel rebar and concrete blocks. The ability of S.T.A.L.K.E.R. to so powerfully evoke these places helps demonstrate the effectiveness of environmental estrangement as a design technique that creates a sense of reality other approaches cannot achieve.

This allows the S.T.A.L.K.E.R. games to readily toy with player emotions, swapping terror, loneliness, melancholy, and exhilaration with ease. In Shadow of Chernobyl, for example, deep in the Zone you visit

the ominous Red Forest region. It received the highest dose of radiation during the days after the disaster, when the reactor fire was still out of control. Radioactive particles settled on the spruce trees and killed them, turning the once-green forest ginger-red.[87] Red Forest is still one of the most heavily irradiated areas of the Exclusion Zone, and in Shadow of Chernobyl it is also the hidden location of the Brain Scorcher, the psychic field that kills Stalkers who venture too close to Pripyat. At first massive radiation and relentless assaults from Monolith troops bring a sense of white-knuckled action. As you draw nearer the vast electrical substation that houses the Scorcher, you experience brutally escalating psychic assaults. The air turns gold and noisy, while distorted, incorporeal creatures materialize and attack from all sides as the Marked One's own mind turns against him. Inside the Scorcher complex itself you cannot help but expect the worst terrors, given the starts encountered outside. Instead, the entire facility is almost abandoned, forcing you to experience a good 35 minutes of agonizing tension, broken by only two or three encounters made all the more startling by their rarity. The instant you succeed in disabling the Scorcher, though, the military and Monolith troops pour in. What had been an empty tour becomes a blood-drenched race for the exit.

#### Nihilism by Design

What, then, is the value of environmental estrangement in game or level development? How can it be incorporated into game development's creative grammar?

Author Stephen King once said, "Naturally, I'll try to terrify you first, and if that doesn't work, I'll try to horrify you, and if I can't make it there, I'll try to gross you out." [88] Similarly, developers do well to have at their disposal a selection of tools to manipulate player immersion, overlapping them to create experiential chains. Environmental estrangement is such a tool, one with broad leveraging opportunity to affect the player in a variety of ways.

Ultimately it is a tool of immersion: in S.T.A.L.K.E.R. it creates a sense of place, which is then tuned to suit the needs of the game. It uses the dismal, melancholy setting across its entire media to accomplish this. But the value of environmental estrangement goes beyond simply creating forlorn, gloomy realms, and certainly beyond creating horror. It can even be used to create positive reactions. There is great beauty in S.T.A.L.K.E.R.'s ruined buildings, crumbling bridges, and rusted-out industrial parks, while the chaos in Pripyat and the running gun battle outside the power plant itself are nothing short of exhilarating. Savvy

developers utilize environmental estrangement as a tool to further other creative goals of a game because players fully immersed in such universes are very easy to startle, excite, frighten, or thrill. S.T.A.L.K.E.R. is a dominant example of the technique, with some players returning again and again just to re-experience the atmosphere.[89]

Environmental estrangement must permeate level design, art, story, scripting, audio, and graphics in order to work. As such the design team must share a creative wavelength to ensure consistency throughout all these game components, and the team must also understand the objective of the immersion they are creating. S.T.A.L.K.E.R. is about connecting one's heart to the lonely, inhuman Zone. Other games use the same technique to accomplish completely different feelings of immersion.

Russian developer Ice-Pick Lodge has employed environmental estrangement in the creepy eroticism of *The Void* (2009), a game that sets the player in a gloomy afterlife robbed of color. *The Void* has a hostile sexuality quite unique in games and realized through the application of environmental estrangement to "put" the player in that realm. The same studio also developed *Pathologic* (2005), a story about a diseased town with a dark and hideous secret. *Pathologic's* release pre-dates that of S.T.A.L.K.E.R., and may have influenced the latter's approach. In the case of *Pathologic*, Ice-Pick Lodge employed environmental estrangement techniques to adeptly evoke revulsion in the player, a creeping, skin-crawling horror at first unidentifiable and later overwhelming.

Action Forms, Ltd., another Kiev-based developer, accomplished it in the underappreciated *Cryostasis: Sleep of Reason* (2009), set in a haunted Soviet nuclear icebreaker, where the frigid temperatures are the true enemy. S.T.A.L.K.E.R. uses environmental estrangement to make you feel the solitude; *Cryostasis* uses it to make you feel the cold.

Polish studio People Can Fly garnered very positive press with *Painkiller* (2004), a high-action arena shooter with singularly brilliant art direction in its presentation of life after death, visually painting a world in which every player found themselves questioning their own preconceptions of what hell would really be like.

Meanwhile, 4A Games, also based in Kiev, manages with *Metro 2033*, a corridor shooter based on the social commentary-rich science fiction novel by Dmitry Glukhovsky. This game has garnered many comparisons to S.T.A.L.K.E.R., but in truth its use of environmental estrangement is much more about creating sympathy for the desperation of the human



condition than about any connection with a place.

So far, we have seen environmental estrangement in games that generally share two key features: a bleakness of philosophy, and nativity in eastern Europe, particularly the former Soviet republics. Whether eastern Europeans are naturally more adept at producing hopeless environments is unclear, but there is no doubt that some of the most dismal and melancholy game settings have originated in that region. However, at this point we do not yet see it widely applied in games elsewhere, though there is no reason why the technique should be limited to work from that area, or limited to “dismal and melancholy game settings.” Perhaps other developers have not yet fully realized its potency as a tool. With the ongoing success of *S.T.A.L.K.E.R.* and the growing perception of eastern Europe as a powerhouse of unique creativity in game development, we may yet see environmental estrangement grow beyond these borders.

For now, though, many Western or Japanese games may be dark, gritty, or grim, but they are almost never disconsolate in the way that eastern European games often are. Even comparable settings are presented differently. Consider Bethesda’s *Fallout 3* (2009)[90], a game with similarly apocalyptic overtones to *S.T.A.L.K.E.R.*, set in a Washington, D.C. shattered by nuclear war. While the devastation in *Fallout 3* is very ably presented, the emotional experience of exploring that wasteland is not at all the same as the experience in *S.T.A.L.K.E.R.* Journalist Shawn Elliott summed *S.T.A.L.K.E.R.* up quite succinctly: “Americans just don’t design shooters this way.”[91]

#### Inspiration and Influence

In an environment where games are almost never based on literature, *S.T.A.L.K.E.R.* also innovates. *Roadside Picnic*,[92] the 1972 novella by Boris and Arkady Strugatsky, is the driving influence behind the game. In that story, aliens visited the earth and then left, abandoning some of their outrageously superior technology in areas scattered around the world. Called Zones, these regions were littered with bizarre anomalies that affected the space-time continuum and, like the anomalies in *S.T.A.L.K.E.R.*, were typically deadly to humans. Of course, treasure hunters and scientists (called Stalkers; *Roadside Picnic* pioneered that title) risked life and limb to collect the advanced alien artifacts. One in particular, a golden sphere, supposedly held the power to grant the wishes of its finder.

The title of the novel is a reference to the relationship between forms of life at different levels of intelligence. When we stop for a picnic, lower creatures have no conception of our activities. We are absurdly more advanced. Our most basic actions and tools are incomprehensible. They do not understand what we are doing or why we are there, they just know they want our sandwiches and potato salad. And when we go, sometimes we leave artifacts from our picnic behind: discarded plastic wrap, an empty soda can, a melting ice cube. All these things, so simple to us (indeed, worthless and disposable) are alien and terrifying to the animals. As they creep in to collect our scraps, they are entering a zone of terrible danger, where an unrecognizable object could mean fabulous riches or instant death. They know it is dangerous, but they cannot resist the temptation... as the Stalkers of *Roadside Picnic* cannot resist the temptation of discarded treasures from this alien civilization, one so advanced that we are to

them as mice and ants are to us, so advanced they may have never noticed our presence on earth at all. Post-picnic scavengers are, to humans, as humans are to God – or, at least, as we are to entities so far advanced they might as well be God.

Russian filmmaker Andrei Tarkovsky directed *Stalker* (1979)[93], based on *Roadside Picnic*, and with a script co-written by the Strugatskys. Produced well before the Chernobyl incident, *Stalker* is a beautiful and melodic film, and intentionally far more nebulous regarding the Zone and its dangers than the novel on which it is based. Since *Stalker's* Zone is heavily guarded and entry is illegal, early on the characters agree to use anonymous titles rather than names. Thus the leads are Stalker, Professor, and Writer, the former making a living by guiding people into the region. The rumor about the power to grant wishes remains the same. In the film, instead of a golden sphere, it is simply a room, a room that Stalker insists must never be approached directly. He claims death lurks invisibly in every inch of the Zone, and that without him Professor and Writer would be killed in minutes. Stalker's incessant warnings and elaborate precautions frighten the others at first, but over time Writer and Professor come to doubt that the Zone is dangerous at all.

Indeed, the trio arrive at the room without injury, and here Professor reveals that he has brought along a small nuclear bomb to destroy the Zone, to prevent evil men from using the room to take power.

"I wouldn't bring anyone like that here," Stalker cries, desperate to prevent the destruction. He needs his Zone as much as the Stalkers of the game need theirs, and the idea of its destruction is unthinkable.

“You are not the only Stalker in the world, my friend,” replies Professor, though in the end he decides against destroying the room.

S.T.A.L.K.E.R. draws more inspiration from novel than film, and naturally takes significant liberties in the interest of making the game fun. The concept of the Zone as a place to which some men are irrevocably drawn, despite the dangers and in search of an all-powerful artifact, resonates through all three installments. Whereas Professor was willing to destroy the room in order to prevent evil men from using it for their own ends, S.T.A.L.K.E.R.’s Wish Granter is its own self-correcting mechanism. In the game’s five “bad” endings, the player does in fact reach the Wish Granter and wishes for something based on prior in-game decisions – wealth, immortality, power, etc. In every instance the Wish Granter provides exactly what he asks, but in a way that either kills or cripples him. The Wish Granter exists to destroy the men who would use it.

On the subject of men, the absence of female characters in the S.T.A.L.K.E.R. games is worthy of note. While this may have simply been a convenience on the part of GSC Game World, it seems odd that a game in development for over six years would overlook something as obvious as this in the interest of simplicity. While the likely truth is that GSC could not be bothered to create the models and animations necessary to include female characters, I prefer to think that the world of the Zone is just not one that would be inviting to women; the Zone is a haunted, violated place that nonetheless is itself a surrogate mother of sorts to the men who live there. Many Stalkers are quick to say they love the Zone (others profess to hate it), and some have gone so far as to worship it. A Stalker’s relationship to the Zone tends to be more important than his relationship with other humans, male or female. “I had an... an acquaintance, I guess,” says one Stalker early in *Shadow of Chernobyl*. “You don’t really make ‘friends’ here.”

#### If You Gaze Into the Abyss

In an interview, some of the Liquidators – Soviet workers and soldiers press-ganged into cleanup duties after the 1986 disaster – reflected that the Zone calls to you, that once someone has been there, he always has a bit of it inside him, pulling him back.[94] Even in the real world, it seems that the Exclusion Zone has a certain degree of power over the minds and hearts of people who experience it. It is a physical, touchable, tangible place that has been gathered up, packaged, and set aside. It is not part of this world any more.

And yet the same sun, the same moon shines on us as does on Chernobyl. Men and women do live there; even in this world they call themselves Stalkers. The shattered reactor still generates dangerous levels of heat as it crouches beneath the Object Shelter, a crumbling concrete sarcophagus never meant to entomb it this long. Many of the fire engines that brought Vasily Ignatenko and his fellows to the reactor remain where they parked that April night, still too radioactive to safely approach. The Red Forest lingers on, a resurgent haven for wildlife now that people no longer occupy the region – though stories of odd mutations and radioactive animals persist.[95] Pripyat still stands, overrun with growth, home to nothing but ghosts and memories.

Did the developers know what the game would do? Did they plan for it and consciously use a technique to accomplish that end? Maybe the folks at GSC just thought they were making a lonely-feeling game set in a world they made a sustained effort to recreate. The term environmental estrangement, as mentioned earlier, is my own. It may come as quite a surprise to developers to hear that their games apparently included it all along. But something has to explain the deftness with which complex emotions and themes are so well presented in some games and so ineptly presented in others. It is like a well-schooled and experienced filmmaker (Tarkovsky, perhaps) shooting the same film as a student who lacks a similar breadth of wisdom and toolset for building emotion through cinema. Environmental estrangement is a tool; not everyone uses it.

I recall moments of terror I felt during my maiden playthrough of *Shadow of Chernobyl*. Deep in a series of underground tunnels, you encounter your first “genuine” mutant: not just a twisted version of local wildlife, but something created by the Zone. Inch by inch I crept through the dim passageway, hesitant to use my flashlight for fear the beam would be noticed. Off in the distance was only darkness, but I spotted a pair of tiny lights. As I moved closer they blinked out, and then I heard a roar, a ravenous howl like nothing human. I had no idea what had made that sound, only that it was not natural, and that it knew I was there, that it was coming towards me. I switched to full automatic on my brand new assault rifle and held down the trigger. This was a stupid thing to do, because bullets were rare and precious at that point in the game. I did not have extras to waste painting the blackness with lead. But I was terrified. I did not want to die alone in that dark. I simply reacted at an instinctive level. Thankfully, bullets could kill it.

Shortly thereafter I visited the Dark Valley. In Clear Sky, this territory would be a key faction stronghold; in Shadow of Chernobyl, it was a gloomy and frightening region of ghosts and solitude. Whereas in most shooters players creep from moment to moment, expecting the worst around every corner, GSC Game World created a universe in which – first of all – there are no corners. Just the environment, there for you to see. And despite the fact that 99% of the S.T.A.L.K.E.R. games let you see exactly where you're going, the desire that someone be there to comfort you is never far. Even when someone is there to comfort you, they are never enough. You are always alone, always vulnerable. You don't belong here. And you never will. But that doesn't change your need to be in the Zone.

Years later in Call of Pripjat I found myself trudging through the rain in a swampy wetland infested by wild dogs and bandits. The mundanity of my current task – pick up some food for a group of heavily armed squatters at a nearby repair facility, so they would let me in to hunt around for a set of tools – belied the ever present danger of the world. Already, having only played for about three game-days, I was starving, bleeding from a wound, and suffering radiation sickness. I had spent the last two nights sleeping on a stained mattress in the rusted-out hulk of a beached Soviet freighter, co-opted by Stalkers and transformed into a makeshift camp and marketplace. I was supposed to be discovering the fate of lost helicopters, but had quickly learned that establishing myself in the Zone was as important to the success of my mission as finding the crash sites.

Environmental estrangement can be the realization of such places – regions that simultaneously are and are not part of the world, places that, when entered, somehow seal us off from the rest of humanity, and all dreams of home vanish. S.T.A.L.K.E.R is a testament to what games can evoke when they forsake gravel-chewing space marines and damsels in distress in favor of elegantly crafting such a grim and desolate place. As revolutionary as S.T.A.L.K.E.R. was as an open-world shooter, it will be remembered for the places it took us.

#### ENDNOTES

Screenshots and reference photos from the S.T.A.L.K.E.R. games courtesy of GSC Game World or taken by the author. Used with permission. Other photography and maps available in the public domain. Special thanks to Oleg Yavorsky and Anton Bolshakov of GSC Game World ([www.gsc-game.com](http://www.gsc-game.com)), Ben Hoyt of 47 Games ([www.benjaminhojt.com/blog](http://www.benjaminhojt.com/blog)), Jason Della Rocca of Perimeter Partners

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