

INTRODUCTION

This is a supplemental publication for my disaster thriller *The Gemini Virus*. It contains material that connects directly with *Gemini* and is designed to extend and enrich the story experience. I have always enjoyed taking a peek behind the scenes in relation to any creative work that captured my attention, be it a book, a movie, an album, or whatever. I find my satisfaction is further layered by knowing what led to its inspiration, construction, refinement, and eventual release. And it seems not-too-coincidental that my favorite artists are those willing to open the door to their workshops and let us look around a bit.

I should point out that some of the pages ahead contain what is often colloquially referred to as 'spoiler material.' Thus, if you haven't yet read *The Gemini Virus*, you may want to set aside this *Readers' Companion* for the time being. You can always come back to it later!

Wil Mara

HOW *THE GEMINI VIRUS* CAME TO BE

In some ways, *The Gemini Virus* started as a natural outgrowth of my first disaster thriller, *Wave*. The two stories are not connected in the sense that one follows the other along some kind of fictional timeline or that they share recurring characters. And *Wave* was not intended to be the flagship title of an ongoing series. But, through a peculiar chain of events, that's what happened. Let me start with a quick explanation of *Wave*'s inspiration and birth, then lead you to the *Gemini* part of it from there.

As far back as I can remember, my imagination has manufactured horrific disaster scenarios. I have no control over it, nor do I have any clue when the next one will arrive. I can be doing the most mundane task—cooking a meal, taking a shower, driving to the store, whatever—and like a figure emerging from the fog, some nightmarish situation will occur to me. I remember as a little kid, maybe seven or eight, sitting at a red light in my mother's car, staring at the sewer grate on the corner closest to us. From there I got this idea—amphibian-skinned creatures with coin-slot eyes and phlegm-clogged voices crawling into the light of day as a prelude to overtaking our quiet little town (probably as punishment for all that Chinese takeout). It was an obvious nod to the creature features of the post-World War II era, I admit—but I remember also wondering, *Okay, why did I think of that?* I didn't share it with my mother (nor the one about the family gathering where a dozen or so relatives were enjoying our pool until someone knocked the patio lamp into the water, zapping all of them to death as the other lights in our house dimmed and stuttered for a moment) because I didn't want to be sent to therapy. But I did wonder what kind of a mind would produce this stuff.

Fast forward to 2002 and a few thousand dark visions later. I'm sitting at my desk proofreading one of the manuscripts I'd written for the school-library market, and out of nowhere comes this image—two women strolling down the street in Beach Haven, New Jersey (New Jersey being my home state, and Beach Haven being one of several towns on Long Beach Island, a coastal barrier in the southern region). They're having a lovely day, chatting and smiling, shopping bags on their arms. And then, *SWOOSH!*—a great gush of the Atlantic Ocean surges between the buildings and sweeps them away, along with all the cars, mailboxes, phone poles, and so on. In that millisecond, *Wave* was born.

Wave had a remarkable commercial trajectory. Here's the gist of it in one comma-riddled sentence—it was initially published by a small house (Plexus, which also gave the world the book *Boardwalk Empire*, upon which the successful HBO series is based) and, in spite of no marketing budget and a bankrupt distributor, it sold through its first printing in less than sixty days, won the 2005 New Jersey Notable Book Award, and was picked up by Macmillan in both paperback and eBook for global distribution. By this point I was thinking, *Okay, maybe these twisted notions aren't so bad*

after all. Even better, my new friends at Macmillan were thinking the same thing. To wit—

I'm standing in my kitchen one evening when my cellphone rings. It was a New York number (212 area code), but I didn't recognize it. As with any other number I don't recognize, my initial impulse was to let the call go to voicemail. (As a brief aside, let me state for the record that I believe phone solicitation is one of *the* greatest infringements upon privacy, on par with wiretapping, watching your neighbors with binoculars, and being asked for your home address when you buy anything at Radio Shack.) So when I saw this unfamiliar number, as I said, my first inclination was to ignore it. But then I thought, *Okay, it's New York, and I deal with a fair number of people there,* and I figured I'd roll the dice....

The voice on the other end introduced himself as Tom Doherty of Tor Publishing. Now, any of you who have an appreciation of science fiction and / or fantasy are familiar with Tom Doherty. After floating through the publishing biz in the '50s, '60s, and '70s in various positions, he founded Tor in 1980. And in doing so, he basically resurrected sci-fi / fantasy by presenting the world with some of the finest new authors around. Here are a few Tor All-Stars you might recognize—Terry Goodkind, Brandon Sanderson, Piers Anthony, Orson Scott Card, and the late Robert Jordan. Tor has also published some of Richard Matheson's work, and Matheson holds a permanent spot of my list of all-time faves. I should also note that Tom received a Lifetime Achievement Award during the 2005 World Fantasy Convention.

So now I've got him on the phone, and he's telling me how much he enjoyed *Wave*, that he'd be interested purchasing the eBook and paperback rights, and asking if I'd like to continue the disaster series with him. I managed to reply in the affirmative without sounding too much like a giddy schoolgirl, and I was assigned an editor a week or so later. One of the first conversations I had with her concerned what book I planned to write next. I had six ideas that I really liked, three of which were fairly well along in their development. We decided to focus on those three to begin with, and the one that she and Tom eventually chose was this story about a badass viral outbreak that started in northern New Jersey and then spread to the rest of the world.

A TALE OF TWO COVERS

If you've browsed around the Internet in search of *Gemini*-related info, you may have noticed that two different covers are out there—one green and one red. And you may have also noticed that the copy you received, regardless of format (physical book, eBook, audiobook, etc.) was the latter. Hopefully, none of you made specific request for the former, or worse, you didn't order your copy from a site that only displayed the green, then received the red in the mail and wondered what on Earth was going on.

Let me clear up the confusion. Long before *Gemini* was released, Macmillan came up with the dual color designs with the intent of publishing both. There was to be no rhyme or reason behind their distribution (e.g., the red for the Western states and the green in the East, or the red only for physical copies and the green for all things digital). It wasn't a subtle homage to the forthcoming Christmas season, either. It was simply another way of getting people to talk about the book. It's amazing how much publicity can be generated for a product through an innovative approach to its packaging, as anyone familiar with an album called *Sgt. Pepper's Lonely Hearts Club Band* can attest.

I don't now recall the reason why the publisher decided to go with just the one cover. If they'd printed both in physical form, there would have been an added expense, but it would've been minor. In my first publishing job back in the early '90s, I sat in a small editorial room that was adjacent to a much larger, industrial-type area that housed a tireless and rather noisy four-color printing press. While the ruckus was hardly conducive to concentration, I did get to learn all about the printing process in my spare time—and I can tell you that the aforementioned color change would've have required a minimum of effort. So I doubt money was the pivotal factor. I think Macmillan's decision may have been based on the fear that consumers might think the covers denoted two separate volumes of the same story, i.e., *The Gemini Virus, Pt. I & II*. (Now there's a scary notion.)

Whatever the reasoning, I was asked which cover I preferred, and I chose the green. And I wasn't the only one, mind you—my wife, daughters, friends, and neighbors all preferred it. The green seemed to suggest a 'toxic' feel, whereas the red carried a more ordinary 'blood' symbolism. Green was organic, reminding me of the Earth and all things that grew and thrived here (which, of course, included contagion). And from an abstract point of view, it just felt right. But the wheels at Macmillan obviously felt otherwise, so red it was. I thought perhaps they might even 'go green' with the paperback release, but no such luck.

I asked that both covers be displayed on my web site, so at least those of you who are interested could see the long-lost green version. Sadly, though, I don't believe there will ever be a copy for any of us to have and to hold.

Hmm...maybe I *should* write a *Gemini Pt. II*.

DELETED TEXT—MICHAEL BECK HEARS ABOUT CARA PORTER'S INFECTION FROM SHEILA ABBOTT

In the final version of *Gemini*, Michael Beck gets the news about Cara Porter's viral infection from Ben Gillette while the former is at the lab, finally cracking the virus's proverbial code. Originally, however, Beck received this information from his boss, Sheila Abbott. In early drafts, he contacted Abbott immediately after reestablishing cellphone service, which he had lost when he went deep into the Catskills. There, of course, he found the key evidence that would determine the outbreak's launching point. When he then goes to contact Abbott with justifiable enthusiasm, he is receives the terrible news about Porter's accident.

The reason I altered this scene in rewrites was 1) to maintain the excitement and tension furnished by Beck's breakthrough discovery (I didn't want to shatter the momentum of this so quickly), and 2) I didn't want the news coming from Abbott, who had revealed a somewhat pejorative opinion of Porter in an earlier passage. Gillette, on the other hand, was a redoubtable Porter fan, and thus I thought the bad news would have more emotional punch coming from him.

As Beck pulled onto Route 17 again, he took out his cellphone to call Sheila Abbott. There had been limited reception in the woods, and he wasn't surprised to see he had voicemails. What did surprise him, though, was how many—twenty-two. He was further puzzled by the fact that most were from Cara.

Maybe they've made a breakthrough, he thought excitedly, his heart beating a little faster. *I'll call her in a minute*. The call to Abbott was first. It was the correct course of action procedurally. Even if Cara had found the damn *cure*, it was his duty to report his findings as soon as possible.

Abbott, in her office, picked up on the second ring.

"Sheila? It's Michael."

"Where have you been? We've been trying to get a hold of you."

"I've been in the Catskills. I didn't have any signal out there."

"The Catskills?"

"Yes. Sheila, I—"

"Michael—"

"—found the source of the virus."

There was silence on the other end.

Then, "You did?"

"Yes."

"You're certain of that?"

"I haven't run the tests on the samples yet, but...yes, I'm certain. Absolutely. It was just what I expected to find."

Another pause. Beck was puzzled; he thought she'd be doing cartwheels around her desk.

“Sheil—“

“What’s the source? What was out there?”

“It’s *deer*, Sheila. Whitetails. I found a bunch of them, all dead. They had the systemic eruptions and swellings. The meat from the four hunters, this is where it came from. Those guys killed the deer, cut them up, and acquired the infection. I guarantee that’s what happened. You’ve got to tell the president, Sheila. This virus is *not* part of a terrorist plot. It’s naturally occurring, and I’ll bet it’s a new mutation.”

“I will...” Her voice was hollow, lifeless.

“What’s wrong? Aren’t you excited about—“

“It’s Cara, Michael.”

“What about her?”

“She caught it.”

“Caught wh—“ He swerved violently and stopped at the side of the road.

“Jesus Christ, no. *No*. Don’t tell me she—“

“The infection.” Abbott’s voice began breaking up. Beck always thought she disliked the girl. Funny how the truth came out at times like this. “She got it at the lab.”

“No...”

“She said one of the animals sneezed in her face—“

“*No*.”

“..and she’d forgot to put her goggles on.”

“*NO!*”

He terminated the call and jammed the accelerator.

BECK'S FINAL SCENE

Ask any novelist and he or she will tell you—there's much more to a story than what you, the reader, get to experience on the page. There *has* to be. Think about it—when you've got this fully detailed, multidimensional story you have to commit to print, you really do need to know a lot more than what ends up between those covers. There will always be scenes here and there that, for whatever reason, don't end up in the finished product. Sometimes the author feels that the information is best left until later in the tale, and even then only in passing. Sometimes a scene will seem altogether superfluous, kind of a creative curio but not important enough to demand your attention. Sometimes it will be sacrificed for the sake of narrative pacing (this is particularly common in suspense novels, because once you've got that baby in the air, you loathe to ease off the throttle). Sometimes your editor absolutely insists that a scene doesn't really need to be there. And sometimes, hey, it just doesn't *feel* right.

With all the characters in *Gemini*, there was more happening in my imagination than I revealed. When the Jensens were in the cabin, for example, I envisioned them giving their son a bath every night, and Andi going over every inch of him with almost frantic intensity—very much like Howard Hughes's neurotic mother, who implanted the germophobia that would contribute to Howard's madness later in life—in search of that first rash or blister. There were moments where Iranian reformist president Maziar Baraheri agonized in private over how to handle the spiking tension between his country and an infuriated United States, consulting three different biographical texts on Barack Obama in the hope of getting an accurate read on the man.

And then there's the final scene with epidemiological hero Michael Beck. The reason I mention it is because four of my pre-pub readers asked about it. While I'm putting together a manuscript, there are several people beyond my editor who will read the pages as they roll out of me; 'farm fresh,' as Mike and Frank say on *American Pickers*. I've known these people for ages and trust them implicitly—not just from a security angle, but also in the sense that I know they'll offer opinions that are at once constructive, gentle, and—most importantly—honest. It's always nice to receive a compliment, but if it's a lie then it doesn't do me (or you, the reader) any good.

So in the case of *Gemini*, four of these people—independent of each other—asked, "What happened to Beck afterwards?" I was somewhat surprised by this, but happy that I could salve their curiosity because I did see, quite vividly, one more scene following the burial sequence. If you recall, Beck exited the story by getting into Ben Gillette's car, switching off the radio, and being driven out of the cemetery. Here's what happened next—Ben took him back to his hotel, where Beck left him with a promise to "...get in touch soon." Knowing Michael as he did, Ben simply nodded and drove off. Beck then threw everything hodgepodge into his suitcase (this took no more than three minutes) and got into his rental car. At Newark Airport about an hour later, he went up to the first ticket counter he saw—he didn't even check the airline—and asked for a seat on the earliest available flight out of Jersey. When the

stunned agent asked where he specifically wanted to go, he replied, “Anywhere that isn’t here.”

HILLARY CLINTON'S *GEMINI* MOMENT

There's a scene in *Gemini* where President Obama huddles with CIA director Leon Panetta to discuss Iranian leader Maziar Baraheri. The president is trying to get a read on Baraheri while he pieces together a response strategy for the outbreak. Or, to put it more plainly, he's trying to figure out whether or not Baraheri had anything to do with it so he can decide if he should blow the guy into space dust.

During the early stages of the writing process, I apparently wanted Hillary Clinton—who, as I'm sure most of you will remember, was Obama's Secretary of State throughout his first administration—to appear in this scene as well. She obviously was cut from later drafts and did not appear in the finished product, but reading over this passage now, I like the chemistry between the characters quite a bit.

“What about Iran in particular? Could there be a connection there?”

Panetta sighed. “The Iranian situation is, as you know, a bit foggy right now. The change of leadership has not come with any easy answers. If the last guy was still there, I might be more inclined to—“

“He was all bark and no bite,” Clinton inserted quickly. “All bluster.”

“Yes,” Panetta said, “but I believe he *wanted* to push the button, on Israel, on us.... If he thought he could've gotten away with it, I think he would have.”

Obama, stroking his chin, said to Clinton, “What is your read on Baraheri?”

Clinton smiled and shook her head. “What's there to judge? The man never speaks publicly, never makes appearances. There are only, what, six recent pictures of him? He's the Middle Eastern Howard Hughes.”

Clinton had successfully summarized the consensus of nearly every world leader and journalist in one sentence—Iranian President Maziar Baraheri was now the official ‘International Man of Mystery’ of global politics. When Iran's last presidential campaign began, it appeared as though the only two candidates of consequence were the incumbent, conservative Mahmoud Ahmadinejad, and the president before him, moderate Mohammad Khatami. After four years of Ahmadinejad's incendiary policies toward the West, relentless antagonism of Israel, and failure to improve the nation's economy, Khatami found himself with a tremendous lead in the polls, much to the excitement of his many supporters at home and abroad—including the American government. However, he dropped out of the race in March of 2009, just two months before the election, citing the belief that those in other powerful positions would block him from making the reforms he felt were necessary. Critics and analysts believed another factor was the refusal by Ahmadinejad's government to allow Khatami to hold rallies in key locations, plus their nocturnal habit of removing Khatami posters from public places.

With less than 60 days to go, Khatami threw his support behind Baraheri, a former two-term mayor from the Shia province of Keran. Totally unknown outside his obscure hometown, Baraheri endeared himself to the Iranian public with his calm

demeanor, his seemingly boundless knowledge of the Koran, his promise of a 'sensible government that works in the best interests of all our people,' and his scant but significant reputation as a UNITER. Khatami campaigned vigorously for him, creating the illusion that Baraheri was equally moderate and thus the two were interchangeable. But mostly, Khatami simply wanted to dethrone Ahmadinejad, which in turn would move Iran closer to a position of sanity on the world stage.

The Iranian people spoke on June 12th, and Baraheri took 63% of the popular vote—a landslide by any definition. His first address to the public was rambling and unfocused, leaving other world leaders scratching their heads. It was as if the man was purposely trying to avoid a hard stance on any issue. With rumors rampant that he had written the text himself, most dismissed it as the awkward first effort of an amateur. In time, however, they would realize this 'non-image' was carefully engineered, suggesting there was more to him than previously estimated. He was unpredictable and subtly manipulative, leaving those around him unsure of whether he was their ally or their enemy, yet he made significant progress on both domestic and foreign fronts. Nevertheless, he did not speak to the media, hated being photographed, and rarely traveled outside the country.

"What is your specific concern about him, Mr. President?" Panetta asked.

"I'd like to improve our relations with this country and their people, but I won't be able to do so if Baraheri isn't the progressive he's supposed to be. If we extend the olive branch and later it turns out he signed off on the effort to wipe out American citizens with this virus, we're not only going to look stupid, we're going to have to respond militarily. A diplomatic slap on the wrist won't do."

"I understand, sir."

"Please try to get some information on him and see if there's a link. I need to make a move soon, and it can't be the wrong one."

"Yes, sir."

Panetta left with coffee mug in hand, leaving only Obama and his former campaign opponent. Clinton looked particularly youthful in her sky-blue pantsuit and pearls. In spite of the occasionally venomous rhetoric that was fired between them leading up to the election, Obama genuinely liked her as an individual and respected her political achievements.

He said, "So, no idea where this guy stands?"

"There's no information to work with, Barry. He's like a ghost that came out of the mist."

"What do Talabani and al-Maliki say?" he asked, referring respectively to the president and prime minister of Iraq.

Clinton gave a small laugh. "They say they've never heard of him. Nouri even made a joke about it on the phone yesterday—'When he was elected, I'd never heard of him. Now that he's been the president for awhile, I've still never heard of him.'"

Obama shook his head. "That doesn't help."

"I'll keep digging."

"Please do. Our relationship with this nation *cannot* get worse."

"Yes, Mr. President."

INTERVIEW FOR 'LITSTACK' (WWW.LITSTACK.COM) / 9 OCTOBER 2012

Was writing always something you wanted to do?

I've always enjoyed writing, even when I was very young. Writing *and* reading—I've done a lot of both for as far back as I can remember. But I didn't consider writing as a profession until I was in my late teens. I took a stab at it almost as a "Let's try this and see what happens" kind of thing. I got very, very lucky and sold my first manuscript. Then I wrote a second and sold that one, too. About a month later, I was offered a job as an editor. At that point, I decided publishing was for me. This was back in the late 1980s.

Your backlist is extensive and you seem to be quite prolific. Do you ever experience writers' block? If so, how do you get around it?

So far, thank God, I've never had writer's block. It's like turning on a faucet—the water always comes out when I need it. That doesn't mean the well won't go dry at some point later on. But I don't think it will. I sure *hope* it doesn't.

Both fiction and non-fiction are in a variety of genres. What area is your favorite to write?

There are joys endemic to both fiction and nonfiction, so it's impossible to choose. Nonfiction means research, and that presents the opportunity to learn new things. Learning new things allows me to make deposits in the ol' brain bank. Fiction, on the other hand, means entertainment and escape. It gives me the chance to stretch my imagination, float beyond the boundaries of daily life, and soar into unexplored territories. And, hopefully, that privilege is extended to the reader as well.

What type of stories do you like to read? What are you reading now?

I read both fiction and nonfiction, with no rhyme or reason beyond ordinary curiosity. Reading is still purely a pleasure-time activity for me, so I don't follow any kind of disciplined criteria. I recently finished a terrific bit of historical nonfiction called *The President and the Assassin—McKinley, Terror, and Empire at the Dawn of the American Century*, written by Scott Miller. What's amazing about McKinley is how much of today's presidency can be traced directly back to his policies. Many people think of him as nothing more than one of the two lesser-known members of the Assassinated Presidents Club (James Garfield being the other). But McKinley played an enormous role in bringing America to global prominence, pulling us out of the brutalizing Depression of 1893, and putting presidential practices into place that continue to be observed today.

And at the moment, I'm reading John Irving's *In One Person*.

Which of your books was the hardest for you to write?

I don't remember any of them being particularly difficult. Maybe some of the early *Boxcar Children Mysteries* that I ghostwrote, simply because they had to adhere to such a rigid structure. But even then, I had a terrific editor to light the way. It's not so much a matter of difficulty as it is being willing to devote the time and energy to getting everything just right. It can be a very tiring process, but then that's why God invented sleep, Cherry Coke, and deadlines.

Have you always been drawn to disaster novels?

My brain seems to manufacture disaster scenarios as naturally as it manufactures amino acids. I have never once sat down and wondered, *Okay, what horrors am I going to visit upon the human race today?* They just emerge from the fog. But as far as other disaster stories, yes, I've always enjoyed them. A few of those '70s disaster films, while at the mercy of limited special-effects technology, provided fabulous entertainment. Some disaster stories tend to be a little hokey either in premise or execution (or both), but most are pretty interesting. I am a humanitarian at heart, so I think part of the pleasure for me is to see these things occurring in a fictional rather than factual context. A good writer (or actor or director, etc.) will deliver the story to you in such a way that, afterward, you feel like you've lived it. But, happily, no one *really* fell onto those power lines or got sucked down a manhole or smushed into jelly.

Your previous disaster novel, Wave, was about a tidal wave. The Gemini Virus is about a virus outbreak. What type of disaster do you think is most likely to actually happen? Are you in the "not if, but when" camp?

That's a magnificent question. If I was hard-pressed to answer, I'd say the *Gemini* scenario is the more likely. One of the people who helped me get the technical details right was a Harvard and MIT graduate who also worked as part of a lab team whose leader won the Nobel Prize. So this man knows his business. And more than once during our research, he said that a pathogen of the strength I created in the book would, without question, strike humanity sooner rather than later. In fact, he has assured me, it's already somewhat overdue. (Gee, thanks Marty—I think I'll move my family to an isolated island in the Pacific now.) I've become close friends with him in the years since, and I can tell you he's not the type to exaggerate or dramatize. Very, very scary stuff.

Your disaster novels have been acclaimed as very realistic by the scientific community, which I'm guessing means you did a ton of research. How long did you spend researching the real scientific implications of your fictional disasters?

It's crucially, *crucially* important to me to make all of the books in this disaster series realistic and credible. I want to strip out that warm and comfy buffer zone that permits the reader to think nothing in the book is really *that* frightening because hey, it's just fiction. That's something I want to destroy right from page one. You do that by presenting situations that can *really happen*.

And just as important, I want to work the details to the point where the best minds in each topic area can read the book and think, *Yeab, he did his homework*, rather than, *Gimme a break—what crap*. Imagine a circle in your mind, with the outside of it representing the world of fantasy (i.e., the impossible) and the inside representing the world of reality (i.e., the possible). I like to operate as close to that border line as I can, but always on the *inside*. That, to me, is where these stories should lie.

Having said all that, it takes a fair amount of time to get the details tight. I will read every book, article, and academic paper on a subject that I can get my hands on. That's step one, and it usually takes months to digest all the information. Then I try to find people within the scientific community who 1) are highly knowledgeable, and 2) like the idea of working on a fictional project (some don't). We trade ideas back and forth until we've got something that flows nicely without drifting into the BS Zone. I then check back with these people several times during the writing process, usually when I come across some little detail that seems to need massaging.

It's a long and arduous process, but it's the right thing to do.

Do you have more disaster novels planned or in the works? If so, can you tell us what types of disasters you'll be exploring?

I'm writing the third book in the series right now, and I have solid ideas for three others. One of those other three has been fully developed and is, in my opinion, among the best I've ever had. I'm loving every page of this new book, but I'm equally excited to start number four (which, BTW, might very well end up going past 500 pages). It'll be a very busy couple of years for sure. Hopefully my readers will feel it was worth it.

Let me say finally that I am very grateful to you for having me on your wonderful site. I hope my responses were both entertaining and informative, and that *The Gemini Virus* doesn't make you want to start wearing rubber gloves and a dust mask.

Even though you probably should.

**INTERVIEW FOR 'THOUGHTS IN PROGRESS'
(WWW.MASONCANYON.BLOGSPOT.COM) / 26 OCTOBER 2012**

What is an average writing day like for you? Do you write longhand and on the computer, have a favorite place to write, a favorite time to write, listen to music or have to have quiet?

I like to write first thing in the morning, immediately after I get up. I find that sharp morning energy conducive to good creativity. I usually wake around 5:00 and get in about two and a half hours of solid work. Then I make breakfast for my daughters and get them off to school. (On weekends, I'll simply take a break at this time.) A second writing session goes from 9:00 to noon, followed by a half hour for lunch. A third goes from 12:30 to 3:00. After that the girls are back from school, and I'm usually finished writing for the day. If necessary, I can do a fourth stretch in the evening, from 7:00 to 9:00. My goal is to produce five solid, publishable pages every day.

As for writing longhand, no, I haven't done that since the very earliest days of my career, back in the late '80s. Just about everything is done on computer. I find it much easier to keep up with my thoughts if I'm typing. When I travel, I always have either my laptop or my netbook with me.

Per favorite places, I have a fully finished office in my basement, and that's where the bulk of the work gets done. I don't put music on, as I prefer it as quiet as possible. I just find it easier to 'climb into' the story and get into The Zone when there are no distractions.

Where did the inspiration for this book come from?

I've always loved thrillers, and I've always loved the 'super virus' subgenre. That said, I wanted to do my own 'virus novel' for a long time. I'd been formulating a story for years, pulling in bits and pieces from the air, until I felt I had something complete. When my editor asked what was next after *Wave*, I presented the idea for *The Gemini Virus*, she liked it, and we moved forward.

As for the characters—the epidemiological team came from my desire to have characters located at the heart of the crisis (i.e., directly responsible for dealing with it), the family of four came from the need for the story to have characters that most readers could connect with (and to give perspective of how the pandemic would play in an ordinary community), and the governmental and terrorist characters came from the desire to give the story a global dimension.

How did you go about doing research for this book? Was it a process you enjoyed or just found it necessary?

I loved the research process for this book. I'm a naturally curious person who always wants to learn new things, so that was one factor. The other was that I found a wonderful person named Dr. Marty Hewlett (studied at MIT and Harvard, worked with a Nobel Laureate, now a professor at UNM) who helped with the technical details. Marty is one of the finest people I've ever known and made the whole process a real joy. We have become very good friends since the research of *Gemini*, and I hope to find a way to work with him again.

What message, if any, would you like readers to take away from this book?

That although the story is fiction, there is nothing in it that can't actually happen. The science is completely credible and the scenario is well within the realm of the possible. A superpandemic will visit this world sooner or later—absolutely guaranteed—so be on the lookout. Better that we game it out in this book and be prepared, right?

What would you say is the worst thing about writing and what is the best?

I don't find anything particularly distasteful about the writing process; I love every aspect of it. If I had to come up with something, maybe the enforced isolation, as this is a very lonely profession. As for the best, hmm.... As I said, I enjoy just about all of it. Perhaps the satisfaction that goes with getting positive feedback from readers and knowing you've succeeded in your objective of both educating and entertaining them. It's wonderful to have asked for their attention for a little while and see that they were happy to have given it.

What can readers look forward to next from you?

The next book in the disaster-thriller series is called *Fallout*. I'm writing it right now, and it's going to take a very modern and very fresh look at one of the most controversial forms of renewable energy.

**INTERVIEW FOR 'CURLING UP BY THE FIRE'
(WWW.CURLINGUPBYTHEFIRE.BLOGSPOT.COM) / 26 OCTOBER
2012**

To start off, can you tell me a little bit about yourself? How did you become interested in writing science-fiction novels?

I've been a sci-fi fan all my life. There were paperbacks around the house when I was growing up, all the biggest names—Bradbury, Asimov, Matheson, Clarke, etc. I'd read the synopses on the back, and the stories always sounded interesting to me. I can't tell you how many hours I sat in my attic with one of these books in hand; if the house had caught fire, I swear I wouldn't have noticed. It was escapist storytelling at its finest, and almost always with some kind of moral underpinning. That dimension gave it real value to me. It was entertainment, but entertainment with a message. Sci fi, I realized in time, was a wonderful way to present important themes without sounding too preachy. As an author, you had a lot of room to run.

*Can you tell us a little about your novel, *The Gemini Virus*?*

It's the story of a supervirus that just shows up one day and begins rapidly burning through the population. The WHO, CDC, and all other healthcare agencies are unable to stop it—in spite of all their experience and empirical data, this one's the heavyweight of heavyweights. It's highly contagious and kills very quickly. And each person who gets it goes through horrific suffering. The story is told from the viewpoint of several characters. One is an epidemiologist from the CDC who's been charged with the task of backtracking the virus in the hope of figuring out how to stop it. He's a very talented guy, but he's also dogged by personal demons, as is his faithful assistant. Then there's a suburban family of four, who struggle with the notion of abandoning their community and then try to outrace the pandemic while holding their domestic life together in isolation. There's also the geopolitical facet of the book, where the American government is trying desperately to respond to the situation while the death toll continues to mount and some unsavory factions from overseas become involved. So there's a lot going on.

*What inspired you to write *The Gemini Virus*? How much research was involved in the writing?*

One of my favorite sci-fi subgenres is the virus-no-one-can-stop story, and I very much wanted to contribute to it. And since so few books in this vein have been presented to the general reading public lately, I saw an opportunity to do it in a fully modernized context.

As for the research, that required quite a bit of work and time. I got in touch with two very experienced figures in the world of virology, both authors in their own right, in order to assure that all the science in the book would be realistic and credible. To that end, the safety buffer that enables readers to think, *Well, it's scary, but at least it*

can't really happen, is completely stripped away. And that's exactly what I wanted—a nightmare scenario that could occur in the real world.

What was your greatest challenge while writing this novel? How disturbing was it write about something that has the potential to happen?

The greatest challenge was making sure all the science fit together. This meant tweaking certain passages multiple times and discarding others. It also meant enduring the painful experience of having someone tell you that something you wrote is flat-out wrong. But I soldiered through all of it because I wanted to be able to give readers the most compelling—and unsettling—story possible.

As for disturbing, good Lord, yes. Writing about this stuff was tough enough, but reading about it during the research phase was even worse. Stories about grieving parents in Africa having to toss the disease-riddled bodies of their dead children onto huge funeral pyres, and how healthcare workers from other nations who witnessed this could never get the scent out of their noses. It was beyond awful.

Who was the most fun to write about? Which character presented the biggest challenge?

The epidemiological characters—Michael Beck and Cara Porter—posed the biggest challenge, simply because I'm not an epidemiologist. Again, I wanted to get the details right, so I consulted with people who've done this kind of work before, plus I read about a million pages of material concerning their profession. (If you're ever in need of these services and there isn't a 'real' epi on hand, I'm your man in a pinch.) At the same time, however, they were a lot of fun because I got to learn something new and interesting. Epidemiologists are the detectives of the virological world.

What are 3 things that are 'must haves' when you write? Do you have any writing rituals?

I seem to do my best work when it's quiet (which sometimes means locking myself in a small room and putting on some source of 'white noise,' e.g., fan, heater, etc.), when I have the most energy (i.e., in the morning), and when I have a cigar going. I know, I know—the latter's going to kill me eventually. I live without it most days, but sometimes the urge becomes too much.

What was the most interesting thing you learned during the course of research for your book?

That a pathogen like the one described in *Gemini* is not only possible, but long overdue. Mathematically, the human race has been beating the odds for quite awhile now—and that kind of luck always runs out eventually.

Can you share with us any projects that you are currently working on or plans for the future? What can fans expect next from you? ?

The next book in the disaster series is tentatively titled *Fallout*. I've been working on it for a few months now, and my editor and I are both pleased with the storyline. But I don't want to reveal anything else about it at this point. I'm not trying to be coy or curmudgeonly, I just want readers to be delighted by the surprise of it.

And beyond *Fallout*, I have a fourth disaster story that I've been putting together for several years. It's very fresh and exciting, and it could conceivably stretch well beyond 500 pages. Again, I can't give out any details now, but I think it'll be worth the wait.

Favourite authors? Role models?

There are so many novelists I whose work I enjoy, even beyond science fiction. I'll give just about anything a try. If an author's work strikes me in That Special Way, I'll become a fan and seek out everything else that he or she has written. I love discovering new authors and new stories.

As for role models, pretty much anyone who has succeeded without compromising a basic set of moral standards; someone who 'made it' without crossing the wrong lines. I've always admired and tried to emulate that.

As an author who has published previous novels, I am curious as to your thoughts with regards to the publishing industry? Have some of the changes affected your publishing and marketing process?

The Internet and the digitalization of everything has had the biggest impact, both on myself and the industry at large. Authors make better royalties on eBooks, but then there are all the security issues. And the Internet has become a wonderful tool for getting the word out (case in point), but it has also drastically reduced the number of live author events, e.g., talks and booksignings, etc. As a result, that personal touch between author and reader is being lost. So there are ups and downs to this latest step in publishing evolution. I want to say, "Let's see how it all turns out," but then again I don't think evolution is a process that will ever come to a conclusion. You just need to learn to move and groove with the times.

What do you like to do when you are not writing? What is your ultimate luxury?

I like to spend time with my wife and daughters. That's my greatest joy and my greatest privilege. It doesn't matter what we do as long as we're together. They're my sustenance and my antidote.

Is there anything else you would like to share with your readers?

Thank you very much for taking the time to read through all of this. If you have any remaining questions, you might be able to find the answers on my web site—www.wilmara.com.

And now for some Hallowe'en fun!! Favourite Hallowe'en memory? Favourite costumes? Have you ever played a Hallowe'en prank on somebody?

I was born and raised along the Jersey Shore, and our winters could be brutal. I remember one Hallowe'en when it was so frigid and windy that none of the neighborhood kids wanted to go out in their costumes. So I talked two of my closest friends into doing just that. My brilliant theory was that, due to the weather and the lack of 'consumer interest,' every home would have so much spare candy that they'd be giving it out in handfuls. And I was right—when the night was over, we each had four pillowcases stuffed to the splitting point.

Three days later—no joke—I had to have my stomach pumped. So much for brilliant! What an idiot.

**GUEST POST FOR 'MY BOOKISH WAYS'
(WWW.MYBOOKISHWAYS.COM) / 11 NOVEMBER 2012**

Hello everyone, and thank you for having me on your site. I'd like to tell you a little bit about my new disaster thriller, *The Gemini Virus*, which released from Macmillan Publishing in early October.

The Gemini Virus is, as its title implies, a novel about a deadly pathogen. The virus in question shows up in the industrial Northeast one day and begins rapidly burning through the rest of population, first in the United States and then the rest of the world. The WHO, CDC, and numerous other healthcare agencies work around the clock to stop it, but this one's the granddaddy of all viruses. Those who contract it die in about four days. The symptoms are horrific and the suffering is unimaginable, and it quickly earns the name 'The Black Plague of the 21st Century.'

The story is told from a variety of perspectives. One is that of an epidemiologist from CDC who's been charged with the unenviable task of backtracking the virus to see if he can figure out where it started and, hopefully, how to bring it down. This character, Dr. Michael Beck, is a brilliant and goodhearted man, but he's also plagued by personal demons. And he has an assistant, Cara Porter, who shows tremendous promise and dedication but also grapples with personal issues. They make a great team, but they're battling so many forces on so many fronts that their destiny is far from certain.

Another character group is an ordinary family of four, the Jensens—dad, mom, young daughter, even younger son, and their faithful dog. They live on a quiet suburban grid where little happens beyond the odd bicycle theft or schoolyard brawl. When they're confronted with the pathogen—not on the news halfway around the world but right in their own town, with the potential for it to land on their street and even their front step—they find themselves torn between helping out their beloved community or escaping to isolated safety. And once they make their choice, they have to live with the consequences—which extend far beyond simple struggles of the conscience.

The story rolls out on other fronts as well. From a geopolitical angle, there's the leader of a dying and desperate terrorist organization, who sees the outbreak as an opportunity rather than a tragedy. And there's President Obama himself, trying to maintain global harmony while determining whether or not one of America's most aggressive enemies precipitated the crisis in a bid to launch World War III. And then there's the virus itself, eternally spreading beyond its point of origin, killing thousands upon thousands while infrastructures crumble, economies collapse, and life as we knew it slips away.

One other facet of the story worth mentioning is the fact that all of the science in the story is 100% credible. With all the books in my disaster series, I am committed to

this critical point. For example, the first book in group, *Wave*, was about a tsunami striking a small barrier island on the East Coast. I didn't want to write the book unless I could find a way to make the science absolutely credible. That meant I had to deal with this key question—could a tsunami really occur in the Atlantic Ocean? After hours of discussion with a veteran oceanographer from NOAA, we determined that yes, it could. Once that hurdle was behind me, I knew I had a good story.

In the case of *Gemini*, I had help from several highly qualified figures in the field of virology. All are authors in their own right, and all worked with me to assure not only that each victim's grisly symptoms were realistic—i.e., based on actual case histories—but also that a brutal pathogen like the one portrayed could, in fact, one day visit our world. That, perhaps, was the most disturbing part of my research—learning that such a virus was not merely possible, but long overdue. And any 'terroristic' aspects of the story, I discovered, were equally plausible and were researched with the aid of the same talented people mentioned above, all of whom have had to deal with the unfortunately all-too-contemporaneous issue of bioterrorism in the course of their profession.

If you want more information about *The Gemini Virus*, visit my web site—www.wilmara.com. And thank you again for having me as a guest on your site. I hope you enjoy the book.

GUEST POST FOR 'OMNIMYSTERY NEWS' (WWW.OMNIMYSTERYNEWS.COM) / 16 OCTOBER 2012

Hello, and thank you so much for having me on your site. I'd like to tell you about my new disaster thriller, *The Gemini Virus*, which released on October 2nd.

Gemini is about a supervirus that appears out of nowhere and then begins burning through the human population—first in the American Northeast, where it begins, and then the rest of the world—in record time. The CDC, WHO, and all other healthcare agencies are unable to stop it, mainly because it's something new; something they've never seen before. It quickly crystallizes into the granddaddy of all pathogens, impervious to all medications and killing its victims in a matter of days. And the agony each victim endures is truly horrifying. To that end, I should warn all of you that there are some *very* graphic passages in the book. However, I'd also like to emphasize that these grisly scenes were not included purely for their dramatic punch—the symptoms illustrated in *Gemini* are based in *real illnesses*. Thus, there is nothing in this story that can't actually happen.

Let me say that again—*there is nothing in this story that can't actually happen*.

I'd like to discuss this point—the realism of *Gemini*—for just a moment. As is the case with so much fiction both past and present, the reader is usually afforded some kind of contemptible 'comfort zone,' borne from the knowledge that the scenarios they're following can't actually happen. Regardless of how disturbing a story might be, a reader can usually settle their nerves simply by thinking, *Yeah, scary—but at least it's not real*. I want to strip that away with all the books in my disaster series. Yes, the situations will always be fictional—but they will also always be *possible*. And once the setup has been established, I like to have things play out in a realistic manner. Thus, even though these disaster stories are the production of my imagination, the events that unfold are about as close to reality as you'll find in modern fiction.

For example, the first book in group, *Wave*, was about a tsunami striking a small barrier island on the East Coast. I told my editor I wouldn't write it unless I could find a way to make the science credible. So the question became, could a tsunami really occur in the Atlantic Ocean? After lengthy discussions with a veteran oceanographer from NOAA, we determined that yes, it absolutely could. Once that hurdle was past, I was off and running (or off and writing, you might say).

Same deal with *Gemini*. I got together with a tremendously talented virologist—an author in his own right, longtime college professor, and former student at both Harvard and MIT—and we determined that a pathogen like the one portrayed in *The Gemini Virus* was not only possible, but *likely*. In fact, I have since learned, such a pandemic situation is *long overdue*.

Just think about that while you're reading *Gemini*—those same grisly scenes could one day, in the not-so-distant-future, play out in your own state, your own town, and even in your own home. Really, really think about that.

Enjoy.

GUEST POST FOR 'PURE TEXTUALITY' (WWW.PURETEXTUALITY.COM) / 5 OCTOBER 2012

Hello, and thank you for having me on your site. I'd like to give you some basic information about my new novel, *The Gemini Virus*, which released on October 2nd. *Gemini* is a story about a new virus that strikes the human race with unprecedented force, burning through the population and racking up the body count while the very best minds from the World Health Organization, the Centers for Disease Control, and countless other healthcare outlets try—futilely—to stop it. The story unfolds from several vantage points, each offering the reader a unique perspective on the crisis.

The first, from the very heart of it, is that of Michael Beck and Cara Porter. Beck is a gifted and accomplished epidemiologist who works for the CDC, and Porter is his rising-star assistant. Both have personal demons that add to their challenges, but they are wholly dedicated to finding a way to stop the pathogen in its tracks. This dimension of the story also provides a realistic look at how epidemiologists go about their job of backtracking diseases and then using both a quantitative and qualitative approach to finding answers. As such, it gives readers a behind-the-scenes view of this fascinating profession.

The second angle is that of an ordinary suburban family of four—husband and wife, and their young son and daughter. I thought these characters would provide a clear emotional conduit through which most readers could make their connection. Specifically, I set these poor people right in the center of the outbreak's public activity, stripping away the traditional safety buffers most of us enjoy during such tragedies, e.g., television, newspapers, the Internet, office chatter, and so on. The Jensens will force you to experience the devastation in your own town, your own street, and your own home. They also force you to ask, "Would I do what *they* did in this situation?"—even when events take a turn for the ugly.

Then there's the geopolitical angle to *Gemini*, most notably from the perspective of 1) President Obama and his staff, and 2) the leader of a dying terrorist organization (dying because they were too violent in their past strategies even for 'traditional' radical organizations to continue supporting them). The latter sees the outbreak as an opportunity to bring his cause back to prominence. There are some twists and turns to this dimension alone that, I guarantee, will keep the reader guessing until the very last page. Also, this is a highly topical facet of *Gemini*, as I worked with themes and ideas that rest uneasily along the edges of the American collective conscience.

Let me take a moment also to make a point about the technical aspects of the story. With all the books in my disaster series (which began in 2005 with *Wave*, now available in both paperback and eBook by the same publisher responsible for *Gemini*), I want to make sure every scenario is seamlessly credible. I want to install and apply all the established facts, then work fictional details around them. To that end, even

though *Gemini* is a novel and thus a work of fiction, there is nothing in the story that *can't really happen*. To make sure of this, I was assisted by several of the best minds in modern virology, including Dr. Marty Hewlett (Professor Emeritus, Department of Molecular and Cellular Biology, University of Arizona, and the co-author of *Basic Virology*) and Dr. Elinor Levy (Immunologist, Associate Professor of Microbiology, Boston University School of Medicine, and author of *The New Killer Diseases*). These wonderful people made sure all the details were solid and correct. Even the more graphic scenes—and there are quite a few—are based on actual case histories. The symptoms, the suffering...all pulled from real life. So hey, while you're reading, don't get all comfortable thinking "No worries—it's just fiction." Today it is, yes. But tomorrow—maybe not.

Thanks for taking the time to read over my guest post, and thank you again for having me. I hope you enjoy every horrifying page of *The Gemini Virus*.

And please make sure you wash your hands when you're done.

THE ORIGINAL SHALIZEH INTRODUCTORY SCENE

If you've read *Gemini* from stem to stern, then you probably remember Ahmed Aaban el Shalizeh, the crazy-as-a-bat leader of the Lashkar al-Islam terrorist organization. In his introductory scene (which immediately follows a private discussion between President Obama and CIA Director Leon Panetta about the growing tension between the US and Iran), Shalizeh gleefully follows the latest casualty reports of the outbreak, then makes the decision to activate a sleeper agent in the industrial Northeast in order to take advantage of the ensuing chaos. When one of his subordinates tries to talk him out of this, he goes postal and stiffs the guy with a rifle butt.

In the first draft of the novel, there was another important character in this scene—a Lashkar operative named Phadkar. Phadkar had been with Shalizeh for years, and in that span he had gone from devoted to disillusioned. More than anyone else in their remote camp, he saw the madman beneath the candied exterior. That said, I thought he might be useful in a later chapter, perhaps as the one who alerted the good guys to Shalizeh's whereabouts.

As it turned out, I didn't need him for that or any other purpose, so out of the story he went. But here, at least, is the original introductory scene with Phadkar in place.

The camp was located in a remote desert sector of Iran's southwestern province of Khuzestan. It was originally intended as a hydroelectric plant until construction was halted due to lack of state funding. The main building had a slanted, corrugated roof and large bay doors at either end. A twin pair of smaller buildings, made from cinder blocks and with no glass in the windows, stood on either side of it. Beyond that, there were only canvas tents, nearly two dozen of varying sizes. A gravel road snaked its way to the site, and a pair of aging RVs were parked at the spot where it abruptly terminated. A swift river bordered by scant shrubbery hugged the encampment on the eastern side, and a rope bridge had been built immediately after the current residents arrived. About a hundred yards beyond the adjacent shore lay the foothills of a nameless mountain, and within those foothills was a network of caves that provided suitable cover when necessary. The leader of the organization that had claimed this site said they could hide in the caves when foreign intelligence agencies flew overhead, either in manned or unmanned planes, to take pictures of them. But they had been here just under one year and so far that hadn't happened yet.

Inside the main building, that leader stood watching a large CRT television propped on a munitions trunk turned on its side. A small cadre of men lingered around him, but he was the one a random observer would notice first. His robes were tattered and filthy, the leather on his bullet belt falling apart. His black turban matched his beard almost perfectly, although the latter was starting to show the first

signs of silver. It was his eyes, however, that brought you to a halt—the left one was as blue as the Pacific, whereas the right was cloudy and lifeless; an orb of dead tissue. Ahmed Aaban el Shalizeh had constructed the legend of losing half his vision in the first battle of his career, a firefight in the Malakand region of Pakistan where he was born and raised. The truth was a bit more prosaic—his mother, naturally lefthanded, destroyed it through repeated strikes to that side of his head. Shalizeh had cultivated many dramatic stories about himself over the years, to the point where even he had begun to forget where the facts ended and the fiction began.

Al Jazeera reported the latest figures from America, with thousands more expected to die within the next week. On the screen, they showed random images from around the country to underscore the horror—bodies being taken out of a home in shiny black bags, a screaming baby with a hideously swollen face, the unsteady cellphone movie of an infected man jumping from the top of an apartment building. A middle-aged woman in a business suit was crying as someone off camera held out a microphone. Between hitches and sobs she said that her husband and twelve-year-old son had contracted the illness while she was away on a company trip, and when she got back she found them both dead. It wasn't the illness that had ultimately taken their lives, however, but a bizarre joint suicide in which they pointed rifles at each other's heads.

Shalizeh turned back to his men, grinning. "Wonderful," he said in his native Urdu. "Simply wonderful. This is truly a sign from the heavens." He walked over and draped his arms around two of them. "Did I not tell you? Did I not foresee it?"

Standing nearby, Amin Phadkar noted with little surprise the stark fear in the two men's eyes. Phadkar had been with Shalizeh longer than anyone else, meeting him in 1999 in an Afghani training camp. Phadkar was all of twenty-two at the time and regarded Shalizeh, who claimed to be thirty four, as godlike. A graduate of Bahria University with a degree in psychology, Shalizeh was charismatic, intelligent, and passionate. He could quote the Koran from memory and was a superb storyteller, dazzling Phadkar with battlefield tales whose authenticity he would later doubt. At the time, however, the impressionable young man thought he had found a hero. But his opinion had changed radically since then. Shalizeh was a sociopath, plain and simple. He was incapable of feeling for others or caring about anyone but himself. They had both killed on many occasions—the difference was Phadkar believed he was doing it for a cause, whereas this man did it for pleasure.

"Your faith has not been misplaced, my brothers," Shalizeh continued, addressing the entire crowd now. "All is happening as I have predicted, and Lashkar al-Islam will rise once again. *We will rise again!*" He removed his rifle from his shoulder and fired it into the ceiling. There were hundreds of holes in the corrugated surface from similar outbursts.

The others did likewise, cheering like giddy children. Phadkar hung toward the back of the group and did his best to blend in. If he could escape this place, he would. But they were twelve miles from the nearest settlement, and Shalizeh had already tracked down two escapees. It was rumored he shot both in the legs, then buried them up to their necks in the sand. It was this kind of over-the-top lunacy that

had slowly diminished his standing in the fundamentalist community. At its peak, Lashkar al-Islam received weaponry, training, and financial aid from sympathetic factions as diverse as Abu Sayyaf, Islamic Jihad, and the Palestine Liberation Front, plus several governments. But Shalizeh's ultraradical tactics, too gruesome even for mainstream terrorists, drove away these supporters one by one until only Iran remained. Then Maziar Baraheri was elected and quietly cut Lashkar al-Islam's remaining lines of support. By then, however, Shalizeh, had just about finished the developmental stage of his pet project—and to Phadkar's amazement, it looked as though it was actually working....

Shalizeh walked over to one of his lieutenants, a Syrian named Ashur, and said, "You can tell Abdul to launch the next phase of our plan."

Phadkar braced himself. The two men had not been getting along lately, mostly on this point.

"My leader, please, this is not the time. It is too early."

"This is exactly the right time. Trust m—"

"I beg of you, not yet."

"I assure you this is—"

"Please, don't."

They squabbled for a few more seconds—an eternity to the spectators—and then, in one startlingly swift motion, Shalizeh struck Ashur in the chin with the butt of his rifle. Ashur collapsed with a groan, blood leaking from his mouth.

Shalizeh stood over him for a moment, his eyes wild. Then he turned to another of his followers and said, "Are you willing to follow this order of mine?"

The unfortunate soul he had picked, a relatively low-ranking soldier named Kala, nodded quickly. "Then *go!*" Shalizeh barked, and Kala fled.

Ashur got to his feet slowly. Shalizeh took no notice of this, turning back to the television instead. Now they were showing a night clip of several buildings on fire in the Chicago area. The caption read, 'Widespread Looting in Major Cities as Illness Spreads.' A smile returned to Shalizeh's lips as if the incident with Ashur never occurred.

Phadkar shivered in spite of the heat.

THE ORIGINAL TITLE

Many novels (and movies, and albums, and so on...) go through title changes before they reach the public. George Harrison of the Beatles was famous for his indecision concerning song titles, so much so that John Lennon can be heard on one studio reel during the *Revolver* sessions shouting something along the lines of, “You *never* have titles to your bloody songs!” F. Scott Fitzgerald was getting ready to release a book called *Trimalchio in West Egg* when his editors guided him to *The Great Gatsby*. And there was a movie once known as *Everybody Comes to Rick's*, but you probably know it better as *Casablanca*.

I played around with several titles for what would become *The Gemini Virus*, and the one I liked best was *Virus Mutatus*. As someone with a lifelong interest in the sciences, I particularly liked the Latinized, taxonomic feel to it. When I say ‘Latinized,’ I’m talking about the way so many formal species names are cast with a Latin spin on them. This tradition comes in large part from 18th century Swedish botanist Carl von Linne, who laid the foundation for modern binomial nomenclature (the naming of plants and animals) and had a particular fondness for the Latin language—so much so that he even referred to himself in his later years as ‘Carolus Linnaeus.’

I thought *Virus Mutatus* had a bit of this in it yet wasn’t so far out there that the average Latin-challenged citizen (i.e., just about everyone) wouldn’t ‘get it.’ The first name, *Virus*—the ‘genus,’ if you will—was easy enough to understand. And the ‘species’ name—*mutatus*—could, I thought, be comprehended through its ‘Latinosity’ because the obvious root word of ‘mutate’ wasn’t particularly obscure, either. I also thought the title struck a kind of sinister, dramatic note that perfectly suited the story. I envisioned the physical book as having a dark, matte-finish cover with a minimalistic design; maybe just the title in narrow capital letters across the center and a single, faded image of a virus below it. That, to me, seemed right on the money.

My editor, however, didn’t care for the title—and neither, I discovered, did just about everyone else I knew. The first shots fired from this front came from the former, who, about the time we were putting the finishing touches on the text, sent me an email that read, “What are you going to do about a name?” Since I’d been writing the book all along as *Virus Mutatus*, I was somewhat surprised by this. Then my wife said with her usual diplomacy, “It’s good, but it could be better.” Finally, a friend of mine who’s been a physician for more than thirty years said (with his usual candor), “*Virus Mutatus*? Uh, no...that sucks.” At this point I was feeling like the focal figure in a friends-and-family intervention. But since these were people whose opinions I trusted and valued, I gave them the benefit of the doubt. Also, I have discovered in my twenty-five years of writing that unanimity usually is a sign that repair work of one kind or another needs to be done. If two people in ten don’t like something, I probably won’t change it. But if all ten are squawking like menopausal hens, the alarm bells go off in my head.

I went back to my early notes to see if I'd had any other titles in mind. When the initial inspiration for a book idea strikes, that wonderful little package of creativity often comes with title included (e.g., I knew my first disaster thriller, *Wave*, would have that title from day one). Sure enough, I'd listed several others—and *The Gemini Virus* now seemed like an easy, obvious choice. Why I hadn't considered it in the first place is beyond memory, but there it was, as plain as day. When I presented it to my various muses, it received immediate approval. And since the book's release, many others have expressed similar enthusiasm. So, I guess I made the right call in the end.

The Virus Mutatus Readers' Companion?

That probably would've sucked.

THE OTHER PROMOTIONAL VIDEO

We live in an age when marketing and promotion are pretty much a 'must-do' if you are to have any hope of building brand loyalty with a new product, whether it be bath soaps, breakfast cereals, SUVs, or a series of disaster thrillers. There's just so much media noise out there now that the only chance a person has of piercing the membrane is to advertise, advertise, advertise. And as I've always said, you can't expect the consumer to buy a product if the consumer doesn't know it's there in the first place.

Book promotion usually involves straightforward tactics like print and online ads, author interviews and personal appearances, and maybe even the odd TV spot. Promotional videos are less common—but, when executed properly, they can be very powerful. Look at how the music industry's revenues skyrocketed in the early 80s with the advent of MTV. In most cases, a music video was little more than a low-budget, single-reel clip of your favorite musicians taking a shot at amateur acting. But as poor as some of those clips were—corny, goofy, melodramatic, you pick the adjective—you gotta admit they *worked*.

I had two ideas for *Gemini* videos. The first became a reality—basically a disturbing Adobe Flash slideshow that introduced the disaster series as a whole, then focused down to the *Gemini* concept with a rapid-fire chain of evocative images culminating in a full-screen advert featuring the book's cover and some publication info. The reaction to it has been overwhelmingly positive, and for that I am very grateful. If you haven't seen it yet, please do check it out. You can find it either on the front page of my web site or on YouTube.

The second video, however, never materialized. This happened for a variety of reasons, but mainly because I simply ran out of time. Once *Gemini*'s pub date loomed close, I became busy with all manner of other promotional duties. And it seemed unnecessary to shoot it *after* the book hit the shelves. I was pretty bummed, though, because I thought it was a neat idea. Since it will never be shot now, I figured I'd share it with you through the miracle of verbal description—

It begins with the sounds—police sirens, very close, and then the screeching of tires as the squad cars come to an abrupt halt. Then the doors opening and closing again. Now voices—officers speaking to one another—and the static of walkie talkies. One of the officers says, "Yeah, we're here. We're going in." The reply from the station—"Roger that, two-four-seven. Take all necessary precautions." The officer says, "Will do," and then, to the others, "Okay, let's go."

Now the first visual—through the eye of an unsteady camera (i.e., the perspective of one of the officers), the side door of a standard suburban Cape Cod fades into view. Up the three little steps, and the officer's hand comes into the frame and pushes the door back. He steps inside and is immediately hit by the smell. Then a gasp and a faint 'Oh my God,' and the camera pans to reveal smears of blood and dried pus on the walls. In the kitchen, clear signs of a struggle—more blood,

broken dishes and glasses, cutlery on the floor, food everywhere, etc. In the living room, furniture is overturned, curtains torn down, the television smashed. In the first-floor bedroom, a grisly discovery—the sneakered feet of one of the victim's is just visible, the body obviously lying on the floor by the bed's far side and otherwise out of view. There is also an axe, on the bed itself, its steel blade spattered in dark scarlet. The officers back out of the room and move on. In the dining room, another member of the family is slumped over the table. A pool of fluid has hardened on the vinyl tablecloth around her head. It is not blood, but there is blood in it. There is also a collection of various household cleaning supplies—ammonia, bleach, Pine Sol, Comet, etc. And still clutched in her blistered hand is the glass she used to drink the toxic mixture that killed her. Finally, the officer / camera eye goes to into the den, where he sees a set of bones still smoldering in the wood stove. Nearby is a lacy, pink-frilled bassinet—empty.

Then a voice—“Hank, come here, quick! Take a look at this!” The officer / camera eye turns and hurries off, and the hand at the end of a uniformed arm is pointing toward one last door. The door is pushed back, a light is turned on, and the camera pans up to the bathroom vanity and stops at the mirror. There, written in smeared blood on the reflective surface, is the following—

The Gemini Virus

The new novel from Wil Mara

Available worldwide October 2

Okay, now I remember the other reason why this video was never made—none of my friends or family wanted to be in it.

Wimps.

LECTURE ON PANDEMIC PREPAREDNESS GIVEN AT THE UNIVERSITY OF NEW MEXICO

Taos, New Mexico
19 September 2012

Hello. I'm Wil Mara, and I'm going to be one of two speakers this evening. I am the author of several fiction and nonfiction books, for both children and adults. Those that have the most relevancy to tonight's talk are a group of novels that I'm currently writing for Macmillan Publishing back in New York. Specifically, it's a series of disaster thrillers that began in 2005 with a book called *Wave*, which chronicled a tsunami strike on America's East Coast, focusing specifically on a small barrier locale known as Long Beach Island. The second book, which applies squarely to tonight's talk, is called *The Gemini Virus*. *Gemini* illustrates the outbreak of a virus that spreads quickly, kills nearly everyone who contracts it, and can't be stopped by the CDC, the WHO, or any other healthcare agency. The story is told from a variety of perspectives, including a suburban family of four, a talented epidemiologist and his faithful assistant, a terrorist leader who perceives a once-in-a-lifetime opportunity, and our current president, Barack Obama. And in spite of the fact that the book is the product of the imagination, the premise of the story is all too real and, as such, scientifically credible. That said, I'd like to take a moment to mention that I was aided on all technical points by my co-presenter for this evening, Dr. Martinez J. Hewlett, who teaches at UNM right here in Taos.

Overview of Tonight's Talk

Now, Marty and I will be presenting our subject matter—pandemics—in two parts tonight. The first, mine, is called 'Pandemics, The Human Drama,' whereas Marty's will be 'Pandemics, The Science Behind the Drama.' I'll be giving you a detailed look at how pandemics effect ordinary, everyday people, and Marty will be following up with the science to support basically everything I said. It's important to note that nothing we present here tonight—*nothing*—will be fictional. Nothing will be pulled from the screen of a Hollywood movie or, for that matter, a sci-fi novel. I'll read a couple of short passages from *Gemini* where appropriate, but only for the purpose of illustration or elaboration. The technical details, however, will be solid and credible, which is a polite way of saying that everything you're going to hear tonight *can really happen*—in your town, on your street, and in your home. And if the only result of tonight's talk is that you develop the habit of washing your hands twenty times a day, so much the better.

Pathogens in General

Let me start with some information on exactly what we're dealing with here. A pandemic is the outbreak of disease over a wide and widely populated geographical area—very often global—resulting in an unusually high degree of illness and death.

But such a situation is only the *result* of something else, and that something else is the introduction and spread of something called a *pathogen*.

As some of you already know, a pathogen, by definition, is a microscopic organism, a living thing so small that we cannot see it with the naked eye. That alone is pretty unsettling—a living thing so small that we cannot see it. The type that we hear about most often are viruses and bacteria. And what makes a pathogen even scarier is what it *does*—it creates disease. The very words itself very literally means ‘disease producer’—*patho* is Greek for ‘disease,’ and *gen* means ‘producer.’

Pathogens can be found on virtually everything, both living and nonliving—clothes, furniture, carpeting... your friends, your family, your neighbors, your pets. They’re on every piece of food you eat, the utensils you eat them with, and the glass or cup you drink from. When you sleep, you inhale them. When you shower, they’ll be on the faucet, the shampoo bottle, and even the bar of soap. Yes—some pathogens can thrive on a bar of soap. When you wrap your hands around the handle of that supermarket cart, some of the pathogens from the last customer will jump onto you. If that person had a cold, sneezed into his or her hand, then pushed that cart around even for a few seconds, guess what? You’re going to be lying in bed with a box of Kleenex for few days. The same risks exists when you get your change from the cashier, lift those bags into the trunk, and put everything away when you get home. That box of pasta? How many people touched it before you did? How about that can of soda? And fresh produce? Forget about it—some of it was lying in the dirt just before it was crated and brought to the store, and *nothing* supports pathogens like soil. In fact, soil is probably the most nurturing environment for infectious agents in the world. Just because that cantaloupe or tomato is in your nice clean store doesn’t mean there’s no risk to picking it up.

Public places are playgrounds for pathogens. Let’s not even get started on public restrooms. A friend of mine who’s a little OCD shared one of his fears with me about public restrooms, and I worked it into *The Gemini Virus*. The passage in question occurs in the book’s very first scene and concerns a middle-aged man named Bob Easton, whose hygienic habits border on the obsessive—

Easton had personal policies designed to protect against illness. One was to avoid others who weren’t feeling well. If he heard someone coughing at the plant, he’d send them home. (as a floor manager with seniority, he could get away with this.) If someone blew their nose more than once in a restaurant, he’d leave. He also avoided schools and day care centers; they were bacterial playgrounds. This had led to several fights with his oldest daughter, Kelly. She lived nearby and couldn’t always pick up her two sons, who were in first and third grade respectively. Yet she knew not to contact her father even in an emergency. And he wouldn’t go near a public restroom. If he had no choice, he’d stand a foot back from the urinal and wouldn’t flush. He also used a paper towel on the doorknob when he went out. Nothing, in his opinion, was more vile than a public-restroom doorknob. He had a recurring nightmare about being forced to lick one.

And while we're on the subject of public places, let's acknowledge that we're in one right now. That means pathogens are floating around here like gnats on a warm summer evening. Thousands of them, in fact, perhaps even hundreds of thousands. The truth is that we are merely sharing this planet with them, and we are so outnumbered that the math would blow a fuse in your brain

How easily can these things spread? Well, pathogens will enter your body in any available passageway—even those that you don't *think of* as passageways. When the skin gets compromised via cuts, scrapes, and rashes, those openings become a conduit. Even if your skin doesn't appear to have any obvious compromised sections, it does. Like the pathogens themselves, you just can't see them. This, by the way, is one reason doctors and nurses wear gloves—because in spite of all that scrubbing and rinsing, you just never know.

Pathogens can also enter the body through the eyes, nose, ears, mouth...you name it. Your respiratory system offers a particularly ripe opportunity for them. You hear the phrases 'fresh air' or 'clean air' all the time, but the truth is there may not be anyplace outside of a controlled lab environment where every breath of air you take isn't dirtied by some sort of microorganism. Fortunately for us, our lungs produce mucus that catches and then disposes of most harmful airborne agents. Every now and then, though, one will burrow beneath that defensive system, resulting in an infection of some kind. And the more powerful the pathogen, the easier it will be for it to pass through that barrier.

Pandemics

Now let's talk a little bit about pandemics. A pandemic, as I said before, is a disease outbreak over a wide and widely populated geographical area. Causing illness and death. In May of 2009, Dr. Keiji Fukuda, Assistant Director General with the WHO, suggested that an accurate way to think of a pandemic is as "A situation where the pathogen is measurably spreading, while at the same time human populations are exhibiting signs of the disease."

Pandemics are nothing new, either. They have been around a long time. Thousands of years in fact. One of the earliest known was 'Plague of Athens' in 430 BC. The most likely culprit was typhoid fever. It was first responsible for the death of a sizable portion of the Athenian military, then went on to kill over a quarter of the population of Athenian society—and it did all this in just four years. It's somewhat ironic to note that the reason it didn't spread faster was *because* it was so powerful—it killed its hosts so quickly that it actually stifled its own chances of spreading further.

You've probably heard of the Bubonic Plague. The earliest known cases occurred in Egypt around 540, but the disease really took off when it reached the eastern Roman Empire—better known as the Byzantine Empire—and eventually reached the capital city of Constantinople. It lasted for more than 200 years and, at its height, reportedly

killed about 10,000 people a day. It eventually was responsible for eradicating more than a third of the world's population.

The Bubonic Plague showed up again in Europe, this time as a pandemic commonly called the 'Black Death, in the 14th century—roughly 800 years after the last visit, which speaks to its staying power. In six years alone, it killed around 25 million people, which was a full third of Europe's population at the time. In England alone, half the population was gone by 1370. It is believed to have started in Asia, traveled along the Silk Road, then throughout Europe, carried by fleas that lived on black rats, which ran wild in those days.

It's easy to think of these as ancient evils, from deep in the past when contact between civilizations was rare and there were few emergency-response procedures. But even in the modern age there have been pandemics of devastating impact. The Bubonic Plague surfaced yet again, this time in Asia, in 1855. It began this round of terror in China, and at one point it killed over 60,000 people in just a few weeks. In time it would kill more than 12 million in China and India alone and spread to all other populated continents on the planet. The WHO classified it as an pandemic right up until the late 1950s.

And in case you're wondering, yes, the Bubonic Plague reached us here the United States, too. It came over on ships to California around 1900, establishing itself most notably in San Francisco. While the death toll mounted, California governor Henry Gage refused to acknowledge it because he was afraid of the negative effect it would have on local economies. If he had acted more quickly, it most likely would have been stopped sooner. Instead, it spread rapidly, and health officials at the time had no idea how to control it. Most of it was concentrated in the Chinatown section of the city, but when they tried to burn houses with infected inhabitants, strong winds came along and blew the blazes out of control, resulting in the burning of almost the entire Chinatown area, which left 6000 people without homes. Ironically, what helped slow further spread was the great San Francisco earthquake of 1906, which finished off Chinatown for good.

Some other well-known pandemics include influenza in its many forms, which from 1918 to 1919 alone infected one third of the world's population. Cholera killed half a million people in Russia during the early 20th century and nearly a million more in India. And of course there's smallpox, which might be the all-time heavyweight champ of pathogenic diseases. It is believed to have first appeared in human populations around 10,000 BC, killed more than half a million people a year in Europe during the late 1700s, and was responsible for upward of half a *billion* deaths in the 20th century alone. The WHO believes more than two million people died from it just in 1967. Some names you might recognize who suffered its wrath include Queen Elizabeth I, both Mozart and Beethoven, Joseph Stalin—although, sadly, it didn't kill the bastard—and presidents George Washington and Abraham Lincoln.

Lincoln was, in fact, suffering from the early stages of it when he gave the Gettysburg Address.

The good news about smallpox is that the WHO declared it globally eradicated in 1979 thanks to an aggressive vaccination program. That said, however, I know Marty believes it's still out there somewhere, maybe in some newly mutated form—perhaps in the wilds of Africa, percolating along a small population of rats in China, or even hitchhiking on some human carrier in one of America's many small towns. I tend to agree—and perhaps a strong hint of proof can be found in the story of a most interesting incident in 2003, which some of you may already know about. A university librarian found a yellowed envelope inside a book from 1888, and inside that were scabs from people who either had smallpox or had been vaccinated with it. Fearing that they might still harbor live examples of the *Variola* virus, the librarian contacted government officials, who then sent the scabs to the CDC in Atlanta, where they remain in cold storage to this day. That library was right here in New Mexico, in Santa Fe to be precise.

If you need further proof that pandemic pathogens never seem to die, I should point out that one of the most recent cases of Bubonic Plague occurred just last year. The contagion was found in a 58-year-old man, also right here in New Mexico. In fact, New Mexico has more annual cases of Bubonic Plague than any other state.

It *Can* Happen

Let's move now to the core of what I came here to talk about—the notion of a *modern* global pandemic brought about by a deadly pathogen that proved to be unstoppable. The first point I'd like to make here—and I really can't stress this enough—is that it is foolish to think it can't happen. Just because we enjoy technologies and medical advances unprecedented in history does not make us immune. Many pathogens are able to alter themselves for the sole purpose of adapting to, and then circumventing, the defenses that have been designed to combat them. Take for example the flu virus. Why do you think we have to get flu shots every year? It's because flu viruses keep reinventing themselves in order to get around the shots you had last year. And while we mourn the roughly 3000 who died during the 9 / 11 attacks—as we certainly should, for that was an act of unforgivable brutality—the flu causes *between a quarter to half a million deaths* around the world every year. We think of the flu as something that keeps our kids home from school and makes it impossible for us to get a good night's sleep. But the fact of the matter is that influenza is a global killer, and if it ever combined with a deadlier virus, the human race would be in serious trouble

It's true that modern communication devices, in the form of everything from cellphones to the Internet, permit us to forewarn of spreading contaminants in a manner never before available. But at the same time, the fact that we can fly from one side of the world to another in a single day also means that we can transport

pathogens over the same distance in same amount of time. It took hundreds of years for the Bubonic Plague to reach America's shores. Today, an outbreak in China might lead to an outbreak in the US within a few days. Most if not all of you knew about smallpox long before this evening's lecture. But what you may not know is that it took smallpox several *millennia* of years to reach all of its victims. In the modern era, that span could easily be truncated into a matter of months. We hear the phrase 'fast-moving society' so often, never realizing that pathogens are moving within that matrix right alongside us. One infected person with a full tank of a gas and a free weekend can infect hundreds, and from there the list of victims will grow exponentially at an astonishing rate.

I addressed this exact point—the rapid rate at which a pathogen is able to spread—several times in *Gemini*. Let me read one particularly relevant passage—

Day 9

The CDC, along with New Jersey's Office of Emergency Management, urged all residents to remain indoors and travel as little as possible. A CDC circular outlined everyday tips to reduce the risk of acquiring the disease, such as frequent hand washing, wearing masks and gloves, and minimizing unprotected contact with your eyes, nose, and mouth.

New Jersey state police set up checkpoints along major roadways and watched for signs of infected passengers, but since they were not medically trained and had little interest in acquiring the infection themselves, results were varied at best. One middle-aged computer engineer was detained while entering the toll plaza at the George Washington Bridge because he was red-eyed and sneezing. It turned out he was a lifelong sufferer of ragweed allergies, and no one had considered the fact that the pollen count was particularly high that day. Another man in his late twenties driving an aging Toyota Corolla with multiple primer patches tested positive not for the illness but for both marijuana and cocaine. Authorities found two more joints and a vial of crack in a guitar case in his trunk.

The suggestion by New Jersey's governor that public water supplies could become tainted triggered a stampede to local supermarkets for bottled water. The CDC added to the fervor by reminding people that water was essential not only for drinking but also cooking and personal hygiene. Examples of price-gouging—in spite of stern warnings from both state and federal agencies—inevitably followed. In one instance, a gas station in Paterson that formerly sold cases of Poland spring for \$4.99 upped its price a few dollars each day. When it reached \$22.99, a couple in a black dodge pickup pulled into the station during the night and tag-teamed the lone attendant on duty—the husband held him at knifepoint while the wife loaded the remaining fourteen cases into the truck bed.

Public schools in northeastern Jersey's six main counties—Bergen, Essex, Hudson, Morris, Passaic, and Union—were ordered closed until further notice. The Department of Health and Senior Services also considered shutting down all restaurants in the area, then decided this was unnecessary since most were closing on their own. Other public places, such as parks and nature trails, were abandoned. Swings and seesaws stood unused, parking lots empty. Shopping malls were desolate, and people began using their sick days until they had to tap into their vacation time . . . Then their personal time . . . Then time they really didn't have.

In spite of all precautions, the virus continued to find its way around; there was always someone willing to help out. A widow from Riverdale who hadn't missed a mass at Christ Church since the Reagan administration decided to disregard all official warnings and attend services in spite of feeling feverish, fatigued, and more arthritic than usual. One sip from the chalice during the Eucharist was all it took to infect the eleven parishioners who used it next.

One of those eleven worked night shift in a convenience store. The following day, just after 1:30 A.M. And while the store was empty, she experienced her first sneeze while making two fresh pots of coffee. Ten minutes later, a truck driver in filthy jeans and a flannel shirt came in. He was hauling a load of unpainted furniture from North Carolina to a warehouse in Maine. He hadn't heard about the outbreak because he didn't listen to the radio on the road and didn't watch the news in any of the cheap hotels along the way. He hated people as a general rule and tried to have as little to do with society as possible. He poured himself a large cup of the infected coffee, didn't acknowledge the woman when she smiled and handed him his change, and climbed back into his rig. He was the first person to import the disease into the state of Connecticut.

A teenager visiting her boyfriend at college brought it into Pennsylvania.

A father of four who had been recently laid off carried it with him to a job interview in Delaware.

Hundreds of New Jersey commuters took it to work with them in Manhattan.

And so on.

The Human Drama

When the next unstoppable pathogenic mutation from Mother Nature's R&D Department makes its debut in our world, a state of chaos and pandemonium will follow like none we've ever experienced. Let's say the infectious agent surfaces in *your* community. Not in the newspaper, not on the evening news, and not on CNN, but right there in your home town. The first thing any sensible person would do is gather up their loved ones, lock their doors and windows. In other words, isolate yourself in what you perceive to be a protected environment, then wait to see what happens. Instead of surfing the Internet to see who's tweeted you lately or visited your Facebook page, you will go onto CNN's site, or Fox News, or MSNBC or whatever. Maybe you'll visit the sites of the WHO and the CDC, too. And what you'll be looking for is any indication that somebody is doing something to solve the problem. Because that's what usually happens, right? Sooner or later, somebody out there finds the answers and the problem is resolved. Then we go on living our lives as before and everything is fine.

So what happens when the word comes down that the people trained to handle these situations are unable to do so? What happens when the traditional lines of defense fail because the disease marched right through and kept on going? How will you react when someone's standing in front of you on a line somewhere and you see this? Or you look through the blinds in your front window and see emergency vehicles parked *en masse* in front of your neighbor's home? And there are people in hazmat suits on the property? And what about when even the people trained to deal with the problem

start becoming infected? What happens when the death count begins to rise in your community? When one of the dead is someone you *know*? Maybe it's the man at the Chinese food place who always gives the kids free fortune cookies, or the lady at the bank's drive-thru window who knows you on a first-name basis. Or the mailman, who's been delivering letters and packages to your home every day for the last ten years and had his infected hands all over that rubber-banded pile of bills that's sitting on the desk in your home office right now?

Elements of your daily routine, habits and practices that have become second nature and have been taken for granted, will begin to fade. What happens when you inevitably run low on food and can't go to the supermarket because it's been closed down? Maybe the contagion has already killed off the staff there. And how do you know something you bought there the other day isn't swarming with contaminants in your refrigerator? Even if you're certain your house is free of the infectious agent, how can you take the risk of going outside? Restaurants will lock their doors because no one wants to report for work. So how will you eat? After you've used up that can of peas or carrots that's been parked at the back of the kitchen cabinet forever, what then?

Again, here's a brief passage from *The Gemini Virus* that addresses the issue. This text concerns a married couple with two children trying to cope with the outbreak —

"We'll leave tonight," Dennis said
"Under the cover of darkness?" Andi asked.
He sighed heavily. "Like the cowards we are."
"Great."
"Let's go get the suitcases from the crawl space."

He went up the stairs, but she lingered a moment, surveying the living room—the couch and love seat where they all sat for family movie night every Friday . . . The end tables with framed family photos . . . The bubble clock Dennis had bought her for their fifth anniversary, the weights revolving soundlessly. The blinds were drawn, shutting out the world. Fear was waiting out there, drifting by the doors and windows for a chance to get in. Their little pocket of safety was slowly collapsing. It was so quiet right now, so still and calm and perfect. And only a set of walls separated them from a nightmare.

Of course it was ridiculous to stay, ridiculous to put the kids at risk for any reason. But she wasn't so sure that they could simply trot back in here after the outbreak had been contained. (if it was ever contained, a mean little voice in her mind suggested.) That felt a little too hopeful, a bit too Pollyanna. For whatever reason, she couldn't shake the feeling that, regardless of the outcome, their lives would never be the same. That was what lay at the core of her sadness—something so beautiful, so wonderful, and for which they had worked so long and hard, was being brought to ruin. And a part of her was letting it happen. Somehow, her willingness to leave right now was contributing to the crime.

Andi took one more look at their meticulously crafted little world. Then, taking a deep breath and summoning all the willpower she had, she let go of it in her mind.

The breakdown in your routine will be followed by the breakdown of general civility in your community. People in drugstores will fight over that last box of rubber gloves or that last package of dust masks. Traffic jams will be worse than ever—and the number of accidents will skyrocket—as people speed off to areas they believe to be safe. And when they encounter police roadblocks, they'll forget their respect for the law because they'll be faced with the horrific choice of either breaking through those barriers or turning back—and no one will want to turn back. How many business owners will be able to control their desire to exploit the panic and indulge in a little of the aforementioned price gouging? You think gas prices are high now? If you're down to fumes and you need to get out of town quick, you might get steamed when the guy at the gas station tells you it'll be ten bucks a gallon—but it's either that or turn around.

The sight of police cruisers zooming around will become commonplace. And what about hospitals and other emergency response centers? Will they be able to handle hundreds or even thousands of cases at a time? Chances are the good people who work there will sooner or later catch the infection themselves. And when that happens, any chance of corralling the illness will be lost. As the disease continues to spread and continues to kill, each layer of decorum that identifies us as a sophisticated species will fall away, and we will be forced into a primally driven, purely survivalist mindset. From there, it will only be a matter of time before infrastructures begin to break down, economies collapse, and entire nations are forced back to a square-one scenario not seen since the earliest age.

Prevention

Now, before all of you go running for the Xanax, let me point something out—while there is little doubt that a deadly pathogen capable of clearing the earth of all human life is a very real possibility, we have done a magnificent job of fending off such an outbreak thus far—and we are certainly capable of continuing this trend. Smallpox ravaged the planet for centuries and killed millions. But then, finally, we got it back into Pandora's box. Those same advanced technologies that I spoke of earlier have, in truth, been a wonderful ally in the fight against pandemics. Think of some of the more recent outbreaks that have been successfully defeated. The Avian Flu, West Nile Virus, and H1N1 all had high-risk potential, but thanks to health officials getting the word out and the general populace acting quickly and responsibly, we were able to keep the human cost to a minimum. The CDC announced recently that it believes polio will be eradicated by 2013. Polio has been gradually diminishing for the last several decades, and now, finally, we will be able to cross it off the list of debilitating illnesses.

The purpose of this talk, and of taking part in the UNM's excellent 'Fall Lecture Series' on sustainability in light of various crises is not to put the fear of God into any of you, but to present before you the concept that preparedness is the *true* solution to

the pandemic dilemma. We do not yet possess the capability to eradicate all harmful pathogens, but we *do* possess the ability to make wise decisions when they invade our space. Awareness, vigilance, education, technology, and good old common sense are our greatest weapons. We have more reliable data than ever before, so you should take advantage of it. Invest the time to educating yourself. Visit the CDC and WHO web sites. Bookmark them. Sign up for email alerts. Learn what you can do to play a role in this fight. Remember, knowledge is power and readiness is king. And if the next epic pandemic arrives during our lifetime, it'll be our choices and our choices alone that determine who wins the next round in this ageless battle.

Thank you.