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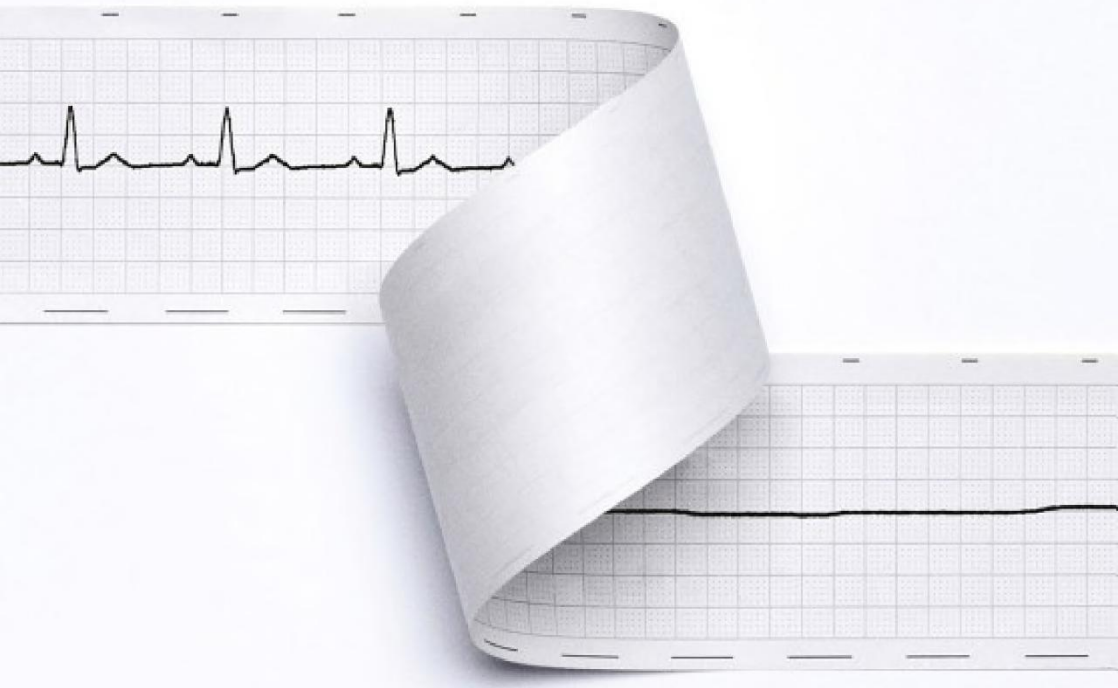

A Doctor Explores What Near-Death Experiences Reveal About Life and Beyond

DR BRUCE GREYSON

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About the Author

Dr Bruce Greyson is Professor Emeritus of Psychiatry and Neurobehavioral Sciences at the University of Virginia School of Medicine. He was a co-founder and President of the International Association for Near-Death Studies and Editor of the *Journal of Near-Death Studies*.

His research for the past four decades has focused on near-death experiences, particularly their after-effects and implications. His academic work has been translated into twenty languages and used in hundreds of studies worldwide. Dr Greyson has published over one hundred scholarly articles about near-death experiences and gives regular addresses at international conferences on the subject. *After* is his first book for general readers.

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For those who faced death and generously shared with me their most personal and profound experiences

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INTRODUCTION

A Journey into Uncharted Territory

Fifty years ago, a woman who had just tried to kill herself told me something that challenged what I thought I knew about the mind and the brain, and about who we really are.

The forkful of spaghetti was almost to my mouth when the pager on my belt went off, launching the fork out of my hand. I had been concentrating on the emergency psychiatry handbook propped open between my tray and the napkin holder, so the sudden beeping startled me. The fork clattered to my plate, splashing tomato sauce on the open page. I reached down to shut the pager off and noticed a blob of spaghetti sauce on my tie as well. Cursing under my breath, I wiped the blob off and then dabbed at it with a wet napkin, which made it less colorful but a bit larger. Only a few months out of medical school, I was trying desperately to look more professional than I felt.

I walked over to the phone on the cafeteria wall and dialed the number on my pager's display. There was a patient in the emergency room who had overdosed, and her roommate was waiting to speak with me. I didn't want to take the time to walk across the parking lot to the on-call room, where I had a change of clothes, so I retrieved the white lab coat from the back of my chair, buttoned it up to hide the stain on my tie, and went down to the ER.

The first thing I did was to read the nurse's intake note. Holly was a first-year student at the university whose roommate had brought her to the hospital and was waiting for me down the hall in the family lounge. The nurse's and intern's notes said Holly was stable but not awake, and that she was sleeping in Exam Room 4 with a "sitter" watching her, a routine precaution for

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psychiatric patients in the ER. I found her lying on a gurney, wearing a hospital gown, with a tube in her arm and heart monitor leads running from her chest to a portable machine that had been wheeled up next to the gurney. Her tousled red hair splayed across the pillow, framing a pale, angular face with a slender nose and thin lips. Her eyes were closed and she didn't move when I entered the room. On the gurney shelf under her was a plastic bag with her clothes.

I placed a hand gently on Holly's forearm and called her name. She didn't respond. I turned to the sitter, an older African American man reading a magazine in a corner of the exam room, and asked if he'd seen Holly open her eyes or speak. He shook his head. "She's been out the whole time," he said.

I leaned closer to Holly to examine her. Her breathing was slow but regular, and there was no odor of alcohol. I assumed she was sleeping off an overdose of some medication. The pulse at her wrist was beating at a normal rate, but skipped a beat every few seconds. I moved her arms to check for stiffness, hoping that might give me a clue as to what drugs she had taken. Her arms were loose and relaxed, and she didn't wake up when I moved them.

I thanked the sitter and made my way to the family lounge at the far end of the hallway. Unlike the exam rooms, the family lounge had comfortable chairs and a couch. There was a coffee urn, and paper cups, sugar, and creamer on an end table. Holly's roommate, Susan, was pacing the room when I walked in. She was a tall girl with an athletic build, her brown hair pulled back tightly into a ponytail. I introduced myself and invited her to sit. Her eyes darted around the room, and then she sat down on one end of the couch, fidgeting with the ring on her index finger. I pulled up a chair next to her. The windowless room was not air-conditioned, and I was already starting to sweat in the heat of a late Virginia summer. I moved the standing fan a little closer and unbuttoned my white coat.

"You did the right thing, Susan, by bringing Holly in to the ER," I started. "Can you tell me what happened this evening?"

"I came home from a late afternoon class," she said, "and found Holly passed out on her bed. I called out and shook her,

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but couldn't wake her up. So I called the dorm counselor and she called the rescue squad to bring her here. I followed in my car."

Still assuming Holly had overdosed on some medication, I asked, "Do you know what drugs she had taken?"

Susan shook her head. "I didn't see any pill bottles," she said, "but I didn't look around for any."

"Do you know whether she was taking any medication on a regular basis?"

"Yeah, she was taking an antidepressant that she had gotten from the student health clinic."

"Are there any other meds in the dorm that she might have taken?"

"I have some medication for my seizures that I keep in the cabinet in the bathroom, but I don't know that she took any."

"Did she drink regularly or use other drugs?"

Susan shook her head again. "Not that I've seen."

"Does she have any other medical problems?"

"I don't think so, but I don't really know her that well. I didn't know her before we moved into the dorm a month ago."

"But she was seeing someone at Student Health for depression? Had she been looking more depressed or anxious lately, or acting strangely?"

Susan shrugged. "We weren't really that close. I didn't notice anything wrong."

"I understand. Do you happen to know about any particular stresses she's been under lately?"

"As far as I know, she's been doing well in her classes. I mean, it's an adjustment for all of us starting college, being away from home for the first time." Susan hesitated, then added, "But she was having problems with this guy she was dating." She paused again. "I think he might have been pushing her to do things."

"Pushing her to do things?"

Susan shrugged. "I don't know. That's just the feeling I got."

I waited for her to continue, but she didn't.

"You've been very helpful, Susan," I said. "Is there anything else that you think we should know?"

Susan shrugged again. I waited again for her to say something else, but she didn't. I thought I might have seen a slight shudder.

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"How are you doing with all this?" I asked, touching her gently on the arm.

"I'm okay," she said, too quickly. "But I have to get back to the dorm. I've got a paper to write."

I nodded. "Well, thanks for bringing Holly in and for waiting to talk with me. Why don't you go back now and get to that paper? You can check on her in the morning if you want. We'll call you if we think of anything else."

Susan nodded and stood up, and I walked her to the door. As I reached out to shake her hand, I again caught a glimpse of the stain on my tie and rebuttoned my lab coat so the ER staff wouldn't notice.

I walked back down the hallway to Holly's room to see if she'd awakened by then. She was still out cold, and the sitter confirmed that she hadn't stirred since I'd left. There wasn't much more for me to do that evening. I spoke with the medical intern evaluating Holly, who said that he was going to admit her to the intensive care unit to monitor her irregular heartbeat. I then called the faculty psychiatrist who was backing me up that night. He agreed there was nothing more for me to do at that point, but told me to make sure I documented everything and that I should check back on Holly and talk with her first thing in the morning. I would have to present her case to the senior psychiatrists on the consultation team on their morning rounds at eight a.m. As I walked across the parking lot to the on-call room, I congratulated myself on not making a fool of myself, and on my good fortune to have the patient admitted to the ICU so the medical intern would be responsible for her admission note and orders that night, rather than me.

When I entered the intensive care unit early the next morning, refreshed with a good night's sleep and a change of clothes, I scanned the rack at the nursing station for Holly's medical chart. One of the nurses was writing in it, and looked up at me.

"You're from Psychiatry?" she asked.

I nodded and said, "I'm Dr. Greyson." It was not hard to identify me as the shrink, as I was the only one in the ICU wearing street clothes under my white coat, rather than scrubs.

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"Holly's awake now, and you can talk with her, but she's still pretty drowsy," the nurse said. "She's been stable all night except for a few PVCs [premature ventricular contractions]." I knew that those irregular heartbeats could mean nothing, but they could also be related to whatever medications she had taken the night before.

"Thanks," I said. "I'll go speak with her briefly now, but the consultation team will be here in about an hour to interview her. Do you think she'll be stable enough to be transferred to the psychiatry unit today?"

"Oh, yeah," the nurse said, rolling her eyes. "There are patients stacked up in the ER waiting for a bed here to open up."

I walked over to Holly's room and knocked on the jamb of the open door. She now had a tube in her nose as well as in her arm, and the heart monitor leads were now connected to a screen above her bed. I pulled closed the curtain around her bed behind me, and softly called her name. She opened one eye and nodded.

"Holly, I'm Dr. Greyson," I said. "I'm with the psychiatry team."

She closed her eye and nodded again. After a few seconds, she mumbled softly, her speech a bit slurred, "I know who you are. I remember you from last night."

I paused, replaying in my mind our encounter the night before. "You looked like you were asleep in the ER last night," I said. "I didn't think you could see me."

Her eyes still closed, she muttered softly, "Not in my room. I saw you talking with Susan, sitting on the couch."

That caught me up short. There was no way she could have seen or heard us talking at the far end of the corridor. I wondered whether that wasn't her first visit to the ER, and whether she could have guessed that I'd talked with Susan there.

"The staff told you that I spoke with Susan last night?" I suggested.

"No," she said, more clearly now. "I *saw* you."

I hesitated, not sure how to proceed. I was supposed to be leading this interview, gathering information about her thoughts of harming herself and what was going on in her life. But I was confused, and didn't know how to proceed. I wondered whether she was just toying with me, the new intern, trying to

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rattle me. If so, she was doing a good job. She sensed my uncertainty and opened both eyes, making eye contact for the first time.

"You were wearing a striped tie that had a red stain on it," she said firmly.

I leaned forward, very slowly, wondering whether I'd heard her correctly. "What?" I said, barely able to form the word.

"You were wearing a striped tie with a red stain on it," she repeated, glaring at me. She then went on to repeat the conversation I'd had with Susan, all my questions and Susan's answers, along with Susan's pacing and my moving the fan, without making any mistakes.

The hair rose on the back of my neck and I felt goose bumps. She couldn't possibly have known all that. She might have guessed what questions I'd be likely to ask, but how could she have known all the details? Had someone already spoken with her earlier that morning, and told her what I'd written in my note? But no one else had been in the room with Susan and me. How would anyone else know the details of what we had said and done? And no one outside the family lounge had seen the stain on my tie the night before. There was no way Holly could have known that I had spoken with Susan, let alone been familiar with the content of our conversation or the stain on my tie. And yet she did. Every time I tried to focus on what she'd said, I found my thoughts getting muddled. I couldn't deny that she knew the details of my conversation with her roommate. I'd heard it with my own ears; it definitely happened. But I couldn't figure out *how* she knew them. I told myself that it had to be a lucky guess or some kind of trick.

But I couldn't fathom how such a trick could have been pulled off. Holly was just waking up from her overdose. She hadn't spoken with her roommate since the day before. How could she know what Susan and I had said? Could Holly and Susan possibly have colluded before her overdose, planning what Susan would say to me? But they couldn't have colluded to drop spaghetti sauce on my tie. Besides, Susan had been agitated when I spoke with her in the ER, and Holly was now still groggy and depressed. It didn't look or feel like a hoax.

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I had no answers to these questions, but I also had no time to think about them, and I had no convenient box to put them in. This was years before anyone in the English-speaking world had heard the term "near-death experience." I was stymied by this incident because I couldn't explain it. All I could do was file these questions away in the back of my mind.

Holly's erratic breathing, indicating that she had fallen back asleep, pulled me back to the present. *My* bewilderment could not be the issue that day. My job was to help Holly deal with *her* issues and help her resolve her problems and find some reasons to live. For now, I had to focus on learning what I could about her life stressors and assessing her suicidal thoughts before the team made rounds.

I touched her arm gently and called her name again. She opened one eye, and I tried to continue my interview. "Holly, can you tell me about your overdose last night and what led up to it?" I pulled it together enough to get from her that she had taken an overdose of Elavil, which can cause dangerous heart rhythms, and that she had taken "a few" previous overdoses in high school. She corroborated everything Susan had told me, adding a few additional details. She told me she was feeling overwhelmed by the social pressures of college and felt she didn't fit in with her peers. She said she wanted to drop out of the university and return home and go to a local community college, but her parents kept telling her to give it more time. When she seemed to be falling asleep again, I thanked her for speaking with me and told her the psychiatry team would be coming around to see her in about an hour. She nodded and closed her eyes.

I put in a call to the student health clinic and left a message that Holly had been admitted, and to request the records of her psychiatric treatment there. I then wrote up a brief intake note, based largely on what Susan had told me the night before and on what little I had observed about Holly's mood and thought processes that morning. But my presentation to the psychiatry consultation team was hardly complete. I pointedly avoided any mention of her claim to have seen and heard me while she was asleep in a different room, and decided then and there not to let any of my colleagues know about it, at least until I could come up

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with a reasonable explanation. At best, they would think I'd lost it and was acting unprofessionally. At worst, they might wonder if I had *really* lost it and was imagining the whole thing.

It was clearly impossible, I told myself, for Holly to have seen or heard what was happening in the family lounge while she had been asleep at the far end of the emergency room. There had to be some other way she'd learned about it. I just couldn't figure out what that other way might be. None of the nurses in the ICU knew about my conversation with Susan in the ER, nor did any of the ER staff on duty the night before know the details that Holly had shared. As unsettling as this incident was for me, a green intern trying to feel that I knew what I was doing, I could only tuck it away, with uncertain plans to return to it sometime in the future. I didn't even tell my wife, Jenny. It was just too weird. I would have been embarrassed to tell someone this had happened, and that I was taking it seriously. And I also knew that telling someone would make it harder to lock it away, and I'd be forced to deal with it somehow.

I believed that there must be some reasonable physical explanation for how Holly knew these things, and I'd have to find that explanation myself. And if there wasn't ... well, the only alternative was that the part of Holly that thinks and sees and hears and remembers somehow left her body and followed me down the hall to the family lounge and, without the benefit of eyes or ears, took in my conversation with Susan. That made no sense to me at all. I couldn't even imagine what it would mean to leave my body. As far as I could tell, I *was* my body. But I couldn't afford to think about these things at this point in my life. I was not in a position to investigate the incident, to track down Susan and ask if she'd noticed the stain on my tie and, if so, whether she'd mentioned it to anyone, and to track down the nurses who'd been working in the ER the night before—not to mention tracking down anyone who might have seen me drop my fork in the cafeteria and then talk with Holly, as unlikely as that would have been. Nor was I in the mindset to investigate the incident. I just wanted it to go away.

For the past half century, I've been trying to understand how Holly could have known about that spaghetti stain. Nothing in

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my background or scientific training to that point had prepared me to deal with such a frontal assault on my worldview. I had been raised by a no-nonsense skeptical father, for whom life was chemistry, and I followed his lead in forging my own career as a mainstream scientist. As an academic psychiatrist, I have published more than a hundred scholarly articles in peer-reviewed medical journals. I have been fortunate enough to serve on the full-time medical school faculty at the University of Michigan, where I ran the emergency psychiatry service; at the University of Connecticut, where I was clinical chief of psychiatry; and at the University of Virginia, where I held the endowed Chester F. Carlson Professorship of Psychiatry and Neurobehavioral Sciences. Being in the right place at the right time has enabled me to receive research grants from government agencies, from pharmaceutical companies, and from private, nonprofit research foundations. I have been privileged to serve on grant review boards and program planning workshops at the National Institutes of Health, and have addressed a symposium on consciousness at the United Nations. I have earned awards for my medical research and been elected a Distinguished Life Fellow of the American Psychiatric Association.

Overall, I have had a very satisfying career as an academic psychiatrist—thanks in large part to the brilliant and supporting mentors and colleagues who deserve a lot of the credit for my success. But through all those years, in the back of my mind were the nagging questions about the mind and the brain that Holly raised with her knowledge of that stain on my tie. My personal need as a skeptic to follow the evidence kept me from closing my eyes to events like that—events that seemed impossible—and led me on a journey to study them scientifically.

I'd become the director of the psychiatric emergency service at the University of Virginia when Raymond Moody began his training there in 1976. When Raymond's book *Life After Life*, the first book in English to use the term "near-death experience" and the acronym NDE, became a surprise bestseller, he was quickly inundated with letters from readers who'd had such experiences.[1] As an intern without the time to respond to all

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those letters, he turned to me, as his training supervisor in the emergency room, for help. And I was stunned to learn at that time that Holly's experience, which had knocked me for a loop, was not at all unique. Raymond had interviewed other patients who claimed to have left their bodies and observed what was going on elsewhere, while they were close to death.

That revelation grabbed my attention, and launched me on a journey to follow an evidence-based approach to NDEs. If I hadn't met Raymond and read his groundbreaking book, I might never have followed the trail of that spaghetti stain. But I soon learned that NDEs were not a new phenomenon. I discovered a multitude of NDE accounts from ancient Greek and Roman sources, all the major religious traditions, narratives collected from indigenous populations around the world, and the medical literature of the nineteenth and early twentieth centuries.[2, 3, 4, 5]

With colleagues at other universities who had also stumbled across NDEs, I cofounded the International Association for Near-Death Studies (IANDS), which would serve as an organization to support and promote research into these experiences. For more than a quarter century, I served as the director of research for IANDS and edited the *Journal of Near-Death Studies*, the only scholarly journal dedicated to NDE research. Over the decades I assembled a collection of more than a thousand experiencers who were kind enough to fill out questionnaire after questionnaire for me, some for more than forty years. I was able to compare the findings from those "volunteers" with the NDEs of patients hospitalized, for example, for cardiac arrest, for seizures, and for attempted suicide. And along that journey, I discovered some common and universal themes in these experiences that go beyond cultural interpretations, as well as patterns of consistent aftereffects on individuals' attitudes, beliefs, values, and personalities.[6] And I have been able to show that these experiences can't be dismissed simply as dream states or hallucinations.

What I found in that forty-five-year journey was a record of NDEs that goes back centuries and encircles the globe. I discovered that NDEs are common, and play no favorites. Even neuroscientists have them. When neurosurgeon Eben Alexander was stricken by a rare brain infection that plunged him into a

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weeklong coma, from which he awakened with vivid memories of an elaborate near-death experience, he came to my office to help make some sense of this seeming impossibility.

I discovered, over almost a half century of struggling to understand near-death experiences, that their impact extends far beyond the individual experiencer. The more I learned about them, the more they seemed to cry out for an explanation beyond the limited understanding of our everyday ideas about the mind and the brain. And those new ways of thinking about our minds and our brains open up the possibility of exploring whether our consciousness might continue after the death of our bodies. And that, in turn, challenges our concept of who we are, how we fit into the universe, and how we might want to conduct our lives.

Some of my scientist colleagues have warned me that my open-minded approach to exploring "impossible" experiences like NDEs would open the floodgates to all sorts of superstitions. As a skeptic, I say bring them on! Let's not prejudge them because of our beliefs; let's test those challenging ideas and see whether they are in fact superstitions—or whether they're windows into a more comprehensive picture of the world. Far from leading us away from science and into superstition, NDE research actually shows that by applying the methods of science to the nonphysical aspects of our world, we can describe reality much more accurately than if we limit our science to nothing but physical matter and energy.

In following the scientific evidence that has accumulated over the past several decades, and not promoting any one theory or belief system, I know I will disappoint many of my friends who may favor one or another particular view. I know that some of my spiritual friends may object that I take seriously the possibility that NDEs may be brought on by physical changes in the brain. And I know that some of my materialistic friends may be dismayed that I take seriously the possibility that the mind may be able to function independent of the brain. And I know that some in both camps may complain that by not taking sides, I am taking the easy way out.

But in fact, intellectual honesty demands that I avoid taking sides in this debate. I think there is enough evidence to take

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seriously *both* a physiological mechanism for NDEs *and* continued functioning of the mind independent of the brain. The belief that NDEs are due to an unidentified physiological process is plausible, and consistent with the philosophical view that the real world is purely physical. On the other hand, the belief that NDEs are a spiritual gift is also plausible, and consistent with the philosophical view that there is a nonphysical aspect to who we are. But neither of these ideas, while plausible, is a scientific premise—because there is no evidence that could ever disprove either of them. They are instead articles of belief.

As I hope to show in this book, there is no reason NDEs can't be *both* spiritual gifts *and* enabled by specific physiological events. The scientific evidence suggests that both ideas can be true without any conflict—which allows us to move beyond the artificial divide between science and spirituality. But my openness to both views doesn't mean that I have no opinions about the meaning of near-death experiences.

The decades of research have convinced me that near-death experiences are quite real and quite profound in their impact, and are in fact important sources of spiritual growth and insight —whatever their source. I know that they matter critically to the experiencers themselves in the way they transform their lives. I believe that they also matter to scientists in that they hold vital clues to our understanding of mind and brain. And I think they also matter to all of us in what they tell us about death and dying, and more important, about life and living.

Throughout the body of this book, I've skipped over the methodological and statistical details of my research, but those who want the technical details of the studies I mention will find them described in the references cited in the notes in the back of the book. All of my peer-reviewed journal articles can be downloaded from the University of Virginia Division of Perceptual Studies website at www.uvadops.org.

Although this book is based on my forty-five years of scientific research into NDEs, it was not written specifically for other scientists. And although I hope people who have had NDEs will feel that I have done justice to their experiences, I have not written this book specifically for them. Rather, I've written this book for the rest of us, for those who are curious about the

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incredible scope of the human mind and about the deeper questions about life and death.

A lot has been said and written about dying and what may come after—much of it pitting scientific and religious viewpoints against each other. I try in this book to move that discussion forward and help change the dialogue. I hope to show that science and spirituality are compatible, that being spiritual doesn't require you to abandon science. This journey has taught me that approaching the world scientifically, basing our beliefs and understanding on evidence, doesn't have to stop us from appreciating the spiritual and nonphysical aspects of our lives. And on the other hand, appreciating the spiritual and nonphysical doesn't have to stop us from evaluating our experiences scientifically, basing our beliefs and understanding on the evidence. Though I learned a lot about dying and what might come after, this is not a book solely about death. It is also a book about life and living, about the value of compassion and our interconnectedness with one another, and about what makes a life meaningful and fulfilling.

My aim in writing this book is not to convince you to believe any one point of view, but to make you think. I hope to show that a scientific perspective can help us understand what NDEs tell us about life and death, and about what may come after. By following the scientific evidence, I've learned a lot about near-death experiences and what they mean. I wrote this book to share with you my passion for that journey. My goal is to make you think about the questions and ponder the answers—not to make you believe any one point of view, but rather reevaluate how you think about life and death. I'm not a Moses, handing down the Ten Commandments. I'm a scientist sharing what I think the data suggest.

As desperately as I wanted to erase from my memory my entire encounter with Holly, I was by then enough of a scientist to know I couldn't just ignore it. Pretending something didn't happen just because we can't explain it is the exact opposite of science. My quest to find a logical explanation for the riddle of the spaghetti stain led me into a half century of research. It didn't answer all my questions, but it did lead me to question

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some of my answers. And it would soon take me into territory I never could have imagined.

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1

A Science of the Unexplained

I had never met someone with half a face. Six months into my psychiatric training, Henry was admitted to my hospital. When I first saw him lying on his hospital bed, it was hard not to stare at the right side of his face, where his jaw and his cheek should have been. The plastic surgeons had done a remarkable job of piecing together skin grafts from his belly to close up the wounds on his face, but even so, I had a hard time maintaining my composure when I looked at him. He spoke in slow and slightly slurred words, using only the left side of his mouth. But as awkward as I felt, he didn't seem at all embarrassed or reluctant to talk with me. In fact, he seemed calm and composed when he told me what had happened after he shot himself.

Then in his forties, Henry had been the youngest child in a poor farming family. His older siblings had all moved away from the family farm when they married, but Henry, despite marrying, never left home. When he was twenty-three, his father suffered a heart attack while he and Henry were hunting. Henry managed to carry his father back to the farm, only to watch his father die in his arms. His mother then took over responsibility for managing the farm, and a few years later, Henry's wife left him, taking their children to live with her parents in town.

Ten months before he shot himself, Henry's mother came down with pneumonia and he drove her to the hospital, where she was admitted. She asked him not to leave her side, but he went home that night to tend to the chickens. When he returned the next morning, she was unconscious. She died a few hours later.

Henry was devastated and began drinking heavily. Racked with guilt about having abandoned her in the hospital, he had

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nightly dreams of his mother being alive. He could not bring himself to touch any of her personal effects, and had left everything in the house just as she'd left it. When he drank, he would become despondent, muttering over and over that "home just isn't home anymore." Finally, after several months of depression, and after spending the entire morning drinking, he went to the cemetery where his parents were buried, taking his hunting rifle.

After sitting on the grave for a couple of hours, reliving and imagining conversations with them, he decided it was time to join them. He lay down on the grave, positioning his head over where he thought his mother's breast would be. Henry lodged the.22-caliber hunting rifle between his legs, aimed it up at his chin, and gently squeezed the trigger with his thumb.[1] The bullet tore through the right side of his face, leaving a trail of shell fragments embedded in his cheek and temple, but by a stroke of luck the bullet missed his brain.

I tried to keep my voice steady and avoid staring at his stitched-up cheek as I interviewed him. "That sounds pretty painful," I suggested. "I can only imagine what must have been going through your mind. What was it like for you?"

The left side of Henry's face curled into a half smile. "As soon as I squeezed the trigger," he said, "everything around me disappeared: the rolling hills, the mountains behind them, all vanished."

He looked up at me and I nodded and asked, "And what then?"

"I found myself in a lush meadow of wildflowers. There, welcoming me with open arms, were my mama and papa. I heard Mama say to Papa, 'Here comes Henry.' She sounded so happy to see me. But then she looked right at me and her expression changed. She shook her head and said, 'Oh, Henry, now look what you've done!'"

Henry paused, looked down at his hands, and swallowed. I waited a moment, and then said, "That must have been hard for you. What did that feel like?"

He just shrugged and shook his head, then took a deep breath. "That was it," he said. "Then I was back in the cemetery, and they were gone. I felt the warm puddle of blood under my head and thought I'd better get help. I started to drag myself toward

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my truck, but before I got there, a gravedigger saw me and ran over. He wrapped a piece of cloth around my head and drove me to the hospital." He shrugged again. "And here I am."

"That's quite an experience," I offered. "Had you ever seen your parents before, since they'd passed on?"

He shook his head. "Nah. But it sure felt good to see them together there."

"It sounds like you must have blacked out, at least briefly, after you shot yourself. Do you think seeing your parents might have been a dream?"

Henry pursed his lips and shook his head. "That was no dream," he said. "Meeting Mama and Papa was every bit as real as meeting you right now."

I had to pause there to try to make sense out of what he was saying. It made perfect sense to Henry—he saw them because they were welcoming him into heaven. But in my scientific worldview, that kind of thing couldn't be real. I ran through the possibilities in my mind. Was Henry psychotic? Had he been so drunk that he'd been hallucinating? Had he spent so much time sitting on his parents' grave that he was in alcohol withdrawal and having delirium tremens? Was that vision of his parents just a part of his grieving?

I couldn't make a case for Henry being crazy. At this point, after several days in the hospital, he was speaking calmly and there was nothing strange about the way he was acting. He hadn't had any physical signs of alcohol withdrawal since he'd been in the hospital. And to my surprise, he didn't seem at all sad.

"When you pulled the trigger," I asked Henry, "what were you hoping would happen?"

"I just didn't want to live anymore," he said quickly. "I didn't care what happened. I'd just had enough and couldn't go on without Mama."

"And now? What are your thoughts about ending it all now?"

"I don't think about that at all now," he said. "I still miss Mama, but I'm happy now that I know where she is."

In my short time as a psychiatrist in training, I'd never seen someone who'd survived a suicide attempt and come out of it seeming as confident as Henry did. He said he was ashamed of

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his suicide attempt, but grateful for his vision. And he was eager to talk with other patients, to reassure them about the value and sanctity of life. Whatever had led him to see his parents, this vision was clearly helping him cope with his grief.

This was still several years before the term "near-death experience" was introduced into the English language, and the only framework I had for understanding Henry's experience was that of a hallucination, an imaginary reunion with his deceased parents. I viewed his experience as a psychological defense mechanism and nothing more.

This was just a few months after Holly had told me about seeing the stain on my tie, and I was still trying to make sense of that incident. But Henry's experience felt very different to me than Holly's did. She claimed to have seen and heard things far away from her unconscious body, but still within the normal physical world. She did not report seeing or hearing any spirits. Henry, on the other hand, claimed to have seen and heard the spirits of his deceased parents. But the biggest difference was that I could look at Henry's vision from an objective scientific viewpoint. Holly, on the other hand, had dragged me personally into her vision, throwing me off-balance whenever I tried to contemplate it, and leaving me grasping futilely for explanations.

I could label Henry's vision as a psychological defense mechanism. But how could I possibly convince him that it hadn't been real? I knew that if I told him he'd imagined the whole thing, I'd lose any rapport I had with him as his doctor. I could also see how helpful that vision was for him, and how important it was to resolving his suicidal thoughts. I viewed his vision as a hallucination that his unconscious mind had created to help him cope with the death of his mother. I decided that the way I could be most helpful to Henry, as his doctor, was to reinforce the value of his vision, and not to challenge the one thing that was giving him a reason to live. My message to him was straightforward: "It sounds like you've had a very powerful experience that's given you a new purpose in life. Let's look at what it means to you and where you go from here."

My intent was to explore with Henry the symbolic meaning of his vision as a way of reuniting psychologically with his deceased

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mother, but he took his visit with his parents concretely and not as a symbol of anything. It never occurred to me at the time that he might have viewed that visit as real simply because it *was* real. Nothing in my background or training to that point suggested that Henry really could have seen his parents. I'd been raised by a chemist whose perception of reality was defined by the periodic table of the elements.

My father was a chemist by day, and by night ... well, he was a chemist then, too. He built a chemistry lab in the basement of every home we lived in during my childhood. Second only to his passion for science was his joy at sharing it with others. While I was still in elementary school in Huntington, New York, he taught me to use a Bunsen burner, a balance beam scale, a centrifuge, a magnetic mixer, a graduated cylinder, and Erlenmeyer and round-bottom flasks.

Many of my father's experiments involved Teflon in the early days after it was discovered by accident by a scientist at DuPont. My father worked at a small chemical company that made things out of Teflon, such as wiring insulation and rocket fuel cells. The main advantage of Teflon over other coatings was that its surface was so slippery almost nothing stuck to it. Some of my father's creations led to useful advances. He sprayed my mother's pots and pans and spatulas with various forms of Teflon years before Teflon-coated cookware became commercially available—although from time to time we'd find bits of it in our food. Other inventions of his were less successful. He put Teflon inserts into our shoes to prevent them from giving us blisters. They were so slippery that with each step, my foot slid around inside my shoe. Walking became tricky, and running was downright dangerous. Whether or not his experiments worked out was less important to my father than the excitement of doing them, the uncertainty of whether or not they would pan out.

A quiver of anticipation ran down my spine as I lay faceup on the sacrificial stone. Sunlight filtered through the towering pines, highlighting the mountain laurel and rhododendron bushes, and birds twittered in the morning breeze. There was a groove a half inch deep in the surface of the large granite slab, completely

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surrounding my body, and just below my feet there was a short gutter cut between the circular groove and the edge of the slab. The entire slab, which must have weighed more than a ton, rested a few feet off the ground, atop four stone bases.

My father, a short, broad-shouldered man with a twinkle in his eye, paced around the slab with a tape measure in his hand and a pipe in his mouth, writing notes and drawing diagrams in his notebook. The dozen or so stone chambers, walls, and drains surrounding the granite slab, and the upright stones that seemed to line up with views of the sun at certain times of the year, were a mystery. In fact, the farmer who owned the land, in Salem, New Hampshire, in the mid-twentieth century called it "Mystery Hill." Others who had studied this site speculated that it might have been built by Viking settlers around AD 1000, hundreds of years before Columbus came to America, or by Celts from the British Isles around 700 BC, or by various Abenaki and Pennacook Indian tribes over thousands of years.

Whatever its origin, lying on that cold slab sent shivers down my spine. I could imagine my blood collecting in the groove surrounding my body, to be channeled down the gutter below my feet into a collecting bucket. It was creepy, but it was also exciting. There I was, a ten-year-old boy, helping my father try to solve a scientific mystery. I couldn't tell whether my shaking was more a reaction to the cold of the stone slab in the crisp New England fall, or to the thrill of discovery. For my father, it was obviously the latter, and I was already catching his excitement at taking part in the March of Science, pushing back the borders of the Unknown. At ten, I was already hooked on science, on answering questions by collecting and analyzing data rather than by armchair speculation or by taking rumors and folktales at face value.

The truth about Mystery Hill remains fuzzy to this day, probably because multiple groups of people altered the ruins over the centuries, destroying or changing the evidence of its origin. The "sacrificial stone" may be just the bottom half of a nineteenth-century cider press, with the gutter around the edge to collect the liquid from the pulped apples, or a stone press to extract lye from wood ash for making soap. My father and I found nothing to support any of the claims about Mystery Hill,

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observations and collect data about *them*, just as we can about physical objects.

In fact, there is a long tradition of scientists studying phenomena that can't be observed directly, from emotions to subatomic particles. We can't directly observe emotions—such as love, anger, or fear. But we can study them *indirectly*, by looking at how they affect our words, behavior, and bodily reactions. For example, when we feel anger—a nonphysical emotion—our speech may get louder and more abrupt, our foreheads may wrinkle and our blood pressure rise, and we may slam things down on tables and counters. And from those observable effects, others can infer that we are angry.

Likewise, physicists can't directly observe some subatomic particles that are too small and too short-lived to capture. But physicist Donald Glaser won the 1960 Nobel Prize in Physics for studying them *indirectly*. He showed that by shooting tiny, short-lived particles through a bubble chamber—a vessel filled with a fluid like liquid hydrogen—we can study the trail of bubbles the particles leave in the liquid. And from those trails we can learn a lot about the particles themselves.

It was precisely this scientific tradition of following the evidence that showed me the limitations of the worldview I had been taught. There were lots of things that couldn't be fully explained in terms of physical particles and forces, but that happened anyway. It didn't seem scientific to shy away from some things just because they were hard to explain. Those things that didn't fit my worldview cried out to me to try to understand them, rather than write them off. Respecting things that are difficult to measure, rather than dismissing them as unreal, is not rejecting science. It's *embracing* science.

As a psychiatrist in training, I treated some hospitalized patients who believed they were reading other people's minds. I assumed, as did most psychiatrists, that these ideas were based on wishful thinking and confusing fantasy with reality. But did we have any evidence to back that up? How did we know that these patients' beliefs—that they could read minds—were a symptom of their mental illness, and not real? Of course, as a scientist, I couldn't just accept their claims as real without testing them. But I also

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couldn't just dismiss their claims as delusions, either, without looking into them. I thought that either validating their beliefs or rejecting them without evidence was doing these patients a disservice, as well as violating scientific principles. So I designed and, with my fellow trainees, carried out a controlled experiment to test whether these patients really *could* read minds.

I was a bit uneasy about the risks of carrying out such a study. As a scientist, I wanted to know whether or not these patients could provide evidence of their claims. But part of my job as a psychiatrist was to persuade delusional patients to give up their false beliefs and think more realistically. If my patients' beliefs in mind reading were unrealistic, would it only reinforce their false ideas by taking them seriously?

I wondered whether the potential benefits of this research would offset the potential risks to the patients themselves. I therefore discussed my proposed study with the medical and nursing staffs on the psychiatry ward. I acknowledged my hesitation about doing this kind of study, and my fear that if I treated these patients' unusual beliefs seriously, I might only solidify their delusions. But to my surprise, the ward director and the staff found the study intriguing, and felt that in the safe environment of the hospital, they'd be able to handle any worsening of the patients' symptoms, if there were any. With the blessing of the staff, then, I went ahead. Two of my fellow psychiatry trainees volunteered to alternate being the "senders" in the experiment—that is, the people whose minds the patients would try to read.

The patients sat alone, one at a time, in a reclining chair in my office, relaxing for a few minutes. Then, when they felt ready, they spoke into a tape recorder, describing any images or impressions that came to them. Meanwhile, the "sender," in another office down the hall, concentrated on a randomly selected magazine picture showing a calm, scary, aggressive, funny, or erotic scene. After five minutes I entered my office and handed the patients an envelope with five magazine pictures. The patients then rated the five pictures as to how closely each one matched their impressions. When they finished, I told them

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which picture the "sender" had been concentrating on, and we spent a few minutes discussing the session.

The study turned out just as my colleagues and I expected. None of the patients showed any evidence that they had read the "sender's" mind. There was no indication that their belief in mind reading had any basis in reality. But there was another finding of the study that I hadn't anticipated. After it was over, I asked each of the patients how they felt about it. To my surprise, they were all happy that they had participated, and—more important—they all felt more trustful of the hospital staff because we had taken their thoughts and feelings seriously enough to test them. In addition, one of the patients added that failing to read the "sender's" mind in this study led him to doubt his other irrational ideas, and helped him be able to separate fantasy from reality. His therapist independently told me that during the course of this experiment, the patient got markedly better. None of the patients reported any worsening of their illness as a result of the experiment.

Carrying out this experiment brought back the excitement I'd felt lying on that "sacrificial" stone slab at Mystery Hill. I was collecting data to test an idea most of my colleagues wouldn't have bothered with, an idea my research might show to be wrong but that held the potential to change our thinking about mental illness. The fact that the patients couldn't read minds confirmed what we'd expected, but that wasn't what excited me. The thrill for me was in using science to test a provocative idea. The process was more important to me than the answer. My report of that experiment was later published in a mainstream medical journal, and it won the national William C. Menninger Award that year for the best research report by a trainee in neurology, psychiatry, or neurosurgery.[4]

It wasn't until several years later that I met Raymond Moody and first heard about near-death experiences. Raymond began his psychiatric training at the University of Virginia the year I started teaching there as the newest addition to the psychiatric faculty. His first clinical rotation was in the emergency room, where I supervised all the trainees. I knew that Raymond had taught philosophy before he went to medical school, and that he

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had written a book while still a medical student, but I didn't know what his book was about.[5] One day, during a quiet time in the ER, we got talking about his background and he told me about his book, called *Life After Life*, in which he used the term "near-death experience" to label the unusual experiences some people had when they seemed to be on the threshold of death. As he talked, it gradually dawned on me that what he had described in his book was related to what had happened years earlier, both to Henry when he thought he saw his deceased parents, and to Holly when she saw me speaking with her roommate while her body lay unconscious in another room. Both Holly and Henry described at least some of the features Raymond had found in NDEs. I'll never know whether they experienced more NDE features because I hadn't known at the time to ask. But it was a revelation to learn that other doctors had heard of these experiences, and had even given them a name! It felt like a door was beginning to crack open.

I had come to the University of Virginia knowing about its Division of Perceptual Studies, a research unit founded by the late Ian Stevenson, the former chairman of psychiatry. For decades, Ian had been collecting and studying the same sort of unexplained experiences that Raymond had described in his book. Of course, Ian hadn't called them near-death experiences until Raymond introduced us to the term. He had filed them under various categories such as "out-of-body experiences," "deathbed visions," and "apparitions."

I took Raymond to meet Ian, and the three of us discussed how to study these experiences in a scientific way. Raymond was getting a huge volume of letters every week, and when I started reading them, I found they all had the same theme. Almost all of the letter writers had been stunned to learn that they were not alone and were writing to express their thanks to Raymond for showing them they weren't crazy.

After Raymond's book was reissued by a major New York publishing house, it quickly garnered a lot of attention. Over the next few years, a number of doctors, nurses, social workers, and researchers wrote to Raymond, interested in studying this phenomenon. Raymond invited them all to meet at the University of Virginia, and out of that group, four of us—

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world was not done yet, and that I had to go back, and I was gone.

"I was back in my body again. I do not remember traveling there. The pain was back and I smelled the odor of jet fuel and heard sirens and explosions. The doctors and medics were busy with Dan, Jim, and the B-52 crewmen, but not noticing me. Later, I found out that they looked at me long enough to see that I was dead, and turned their attention to those that they could help.

"Two days later, the doctor told me that I was lucky that I didn't die. I just said that I *did* die. He looked at me in a strange way and scheduled me for psychological evaluations. I learned to keep my mouth shut about the incident from that time on."

Bill's experience was just one of many I'd encountered that challenged my understanding of how the world worked. But these individual accounts, taken in isolation, were difficult to study scientifically. As my interest in near-death experiences became more widely known, by word of mouth and through articles in both the scholarly and popular media, I was receiving more and more accounts to add to my collection. I set out to examine the particularly challenging features of NDEs as they presented in this growing collection of narratives, in order to find patterns that might shed light on their nature and origin.

One of the near-death-experience features that I found most puzzling was the extreme clarity and speed of thought. This is not what I would have expected of an experience that often occurs when the brain is deprived of oxygen. I was skeptical that all these experiencers could really think as clearly and as quickly as they claimed when their brains were being starved of oxygen, so I decided to look into the full range of thought processes that experiencers were describing for me. What I found is that many of them *did* report that their thoughts became much faster, clearer, and more logical than usual.

As it turns out, this is not a new phenomenon. In 1892, Swiss geology professor Albert von St. Gallen Heim published the first large collection of near-death experiences in the *Yearbook of the Swiss Alpine Club*. Heim himself had had an NDE two decades earlier, when he was twenty-two and mountain climbing in the Alps. As he fell sixty-six feet down a mountain, his body crashed

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my thoughts. Objective observations, thoughts, and subjective feelings were simultaneous. Then I heard a dull thud and my fall was over."

It struck me that it took quite a while for Heim to recount the long and involved chain of thoughts he had in just the few seconds he was falling. Many other experiencers reported the same rapid thinking. John Whitacre had an NDE at age forty-seven while recovering from surgery for pancreatic and liver cancer. He described for me his thought processes during his NDE:

"I also had the realization I had a body, which was very much like my physical body I left. I was aware of an enhanced state of consciousness, in which my mind was extremely active and alert to what I was experiencing. I was very observant during this state, and my thoughts seemed to go almost twice the normal speed, although very clear in nature."

Among all the experiencers I've interviewed, half described their thinking during the NDE as clearer than usual, and almost as many described it as faster than usual. Gregg Nome found himself drowning at age twenty-four when his inner tube capsized after going over a waterfall. He described for me being trapped facedown in the sand at the river bottom:

"My thoughts were moving so quickly at this point. So many things seemed to be happening simultaneously, and in an overlapping manner. Suddenly, images began to pass through my mind at extremely high speeds. I was amazed to find that my mind seemed to be understanding at the same high speeds. Then, I was even more amazed at how I could be thinking of other things like this, at the same time as understanding the images. Suddenly, everything made sense. I remember thinking, 'Ahhh, so that's it. Everything is so perfectly clear and simple in so many ways; I had simply never thought about it from this point of view.'"

A feature associated with rapid thinking is a sense of time slowing down. Rob had an NDE at age forty-four when the ladder he was standing on slipped, tipping him over backward. He told

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accounts. Joe Geraci, a thirty-six-year-old policeman who almost bled to death after surgery, described this sense in his NDE:[8]

"I knew what it was like to experience eternity, where there was no time. It's the hardest thing to try and describe to someone. How do you describe a state of timelessness, where there's nothing progressing from one point to another, where it's *all there*, and you're totally immersed in it? It didn't matter to me if it was three minutes or five that I was gone. That question is only relevant to here."

For Joe, time not only slowed down, but seemed to disappear entirely. Many people who have had NDEs describe a sense of timelessness. Some of them say that time still existed, but that the NDE seemed to be *outside the flow of time*. Everything in their NDE seemed to be happening at once, or they seemed to move forward and backward in time. Others say that they realized in the NDE that time *no longer existed*, that the very concept of time became meaningless.

Among all the people who shared their near-death experiences with me, three-fourths reported a change in their sense of time, and more than half said that they had a sense of timelessness in their NDEs. I noticed that this slowing or stopping of time, along with the speeding up of thought processes, were more common in NDEs that couldn't have been anticipated, as in sudden car accidents or in heart attacks in apparently healthy people. They were less likely in NDEs that might have been anticipated, as in medical crises in people who knew they had a fatal disease or in people who tried to take their own lives.[9] When these changes in thinking and the sense of time do occur, they often appear at the beginning of NDEs, and seem to be brought on by becoming aware of the threat of death. This connection between time slowing down and the suddenness of the close brush with death is something I could have discovered only by analyzing a large sample of NDEs.

The link between unexpected brushes with death and clearer, faster thinking made sense to me. If you're trying to stay alive in a sudden crisis, it may be helpful for you to be able to slow down your perception of time and to think faster and more clearly, so you might be able to save yourself, as Albert Heim and Rob did during their falls. And we know that people who are expecting to

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