

Sample chapter from

# ***The Turtle Test***

by Benjamin Gayle

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## 0.

Cloudless sky, bright and sharp. Short buttes ring a crater-like plain. Soft brownish dust gives way beneath his feet yet does not rise. And no sound. And alone.

Dull greens and reddish patches interrupt the darker reds and soft browns of the dust and bare rock. With no close water source, the plants had learned to pull water from the atmosphere. Complex biological systems adapted to their environment. How long had it taken? Kira thought to wonder if they had had help. He had seen it before, places that had been touched, had been *changed*.

A low stone wall dips into a shallow depression, then rises again to the horizon. A wall of found stones, piled purposefully, then abandoned. A story written without words waiting to be read. It was a neighborly sort of wall, Kira thought. A boundary marker perhaps? Or simply a convenient central location for disposing of hindering debris cleared from the fields on either side, no good reason to move them further or lack of appropriate transport?

With little effort Kira could vault over – spring, plant hands, push off. An agile athlete could clear it in a single leap. Kira was no such athlete; lithe agile physics of youth had coalesced into the sturdiness of late middle-age. Mass and volume collected over decades, becoming and ultimately encoding Kira, as the piled stones encoded the activity, the existence, of some remote beings. Infrastructure, in a sense, as much as infrastructure is the

basic accomplishment that allows the rest to follow. But what followed the wall? More questions with no obvious evidence to answer. He was in the business of collecting change, indirectly, by gathering such evidence. The stones had moved somehow, some *when*; motion being the very essence of change. Yes, the stone wall was evidence, an advertisement for the information encoded within its existence.

Joining his sister in starting the Company seemed like more than just starting something new; Kira thought of it more like a reset. Reset implies a sudden disconnect, as if nothing in the current state could be salvaged by lesser modification. Reset also implies a capacity for analysis and understanding, a conscious choice and will to action, an acceptance of risk, for how could starting over from nothing *not* be risky? Will it be different this time? How many times? Will it remember? Or was that capacity damaged beyond recovery, in need of re-building, re-creating? The Universe always remembers, it seems, until it forgets. *In stone monuments, DNA, ripples in space-time.* The Universe will not *care* to remember, but Kira might. Everything encodes information. What are the rules? How can we retrieve that information when we want or need? That must be learned anew.

Storing information on-demand is *hard* because it is not interesting. Retrieving information on-demand is hard because, well, Kira did not know why. It had occurred to him that things experienced directly would be stored and remembered differently than rote facts of history or seemingly irrelevant deductions of mathematics. Then there were the dreams, the entities that remembered themselves and exhausted Kira in his sleep. These were

not active constructs of his conscious mind, thoughts or fantasies. They were vivid memories, *remembered*, and as Kira struggled to grasp, not always of a past that he could recognise. In the context of Kira, none of it made any sense.

A group arrived and began surveying the plain, marking out a grid. They finished and left without acknowledging Kira's presence. Markers dot the plain at varied intervals. A misplaced fragment of memory overlays the scene in Kira's mind. *Whose ancestral homeland are we about to (possibly) destroy*, he thought. He saw the wall as a butterfly, fluttering in the unmeasurable distance to push him away, on to a different site. But this was only a first inspection and this site had passed for remoteness and desolation. No further decisions could be made without a team of geologists to survey and sound, for what lay beneath the dusty dryness would be critical for the project. Kira made notes in his log and moved on.

Still thinking of butterflies, Kira wondered what distant fluttering was driving his sister. *No*, he decided, *Laerival herself is fluttering*.

# 1.

'Laerival'? Really? He thought it strange that she wanted everyone to have pseudonymous codenames, not knowing any of the others' true names, but her choices for those codenames baffled him. And the thought of having to call his sister 'Laerival', having to *remember* to call her that? No, he thought, he would end up calling her 'Val'.

Was there an underlying significance to these names, these *words*? Or in which name applied to what person? She wasn't telling. And 'Kira', at least that was a real name, though certainly not one he would have chosen for himself.

They were at the old house, the upside-down house, discussing Val's plan. The house had endured, neglected, mostly empty, while Kira was away pursuing his existence. The downstairs was two rooms of wooden floors: one room with squarish stuffed chairs, and a large open kitchen with a worn wooden table and three chairs. From the kitchen, a doorway opened to a landing looking up a flight of stone steps. The upstairs was two rooms of stone floors: an empty room with a fireplace and windows all the way around, and a dark, damp, and cluttered room like a basement filled with junk. Glass double-doors at the top of the steps opened onto a stone patio amid a neglected garden.

Kira was standing at the top of the stone staircase, looking out over the patio into an ambiguous morning mist. It was difficult to tell what season it was with the

mist obscuring the garden, but he wasn't thinking about that. He was recalling and reviewing all of those other visions that his sister had had of the future – her future – which sometimes included him, willing or not.

Kira figured that Laerival had gotten to a point where she felt like there was nothing left to lose, so she may as well do what she wanted. Working for someone else was good as far as she was paid to find and solve problems. She enjoyed it. She was good at it. But that got her promoted into management and into misery. That ended quickly and abruptly and so she started over, teaching. When that turned out to be very different from her idealised expectation, she started a company: a business to create and sell data storage and retrieval systems. The source of the inspiration to do this was unclear, at least Kira never got her to tell him. Val would only say that she needed something to do and just picked something. Kira partly accepted that, but knew his sister well enough to see that she thought she had found a problem to solve and a way to solve it. She had not anticipated the scope (or the tedium) of selling and *servicing* the product. Compared to those, the task of creating the product seemed trivial. Kira had been involved because he had not been otherwise occupied, sufficiently, to wriggle out when his sister had cornered him. His primary role was in product usability, working as a liaison between customers and internal product development. It was mostly bug-fixing, but there were occasional opportunities to add to the product. And these experiences, with information and user interfaces, had changed the way he thought about the Universe. But he was glad when it ended. His tolerance for serving customers was even lower than Val's. The business was

sold to a competitor and Kira drifted off in no particular direction.

Thinking of those times, those experiences, other memories surfaced unbidden, demanded his attention, reflection . . .

Four weeks, he remembered. It had taken four weeks to resolve the issue, clear up the misunderstanding, to secure his release.

Kira had been traveling far from home to meet with customers, to learn their needs, to see first-hand the difficulties they had in using the product. Some of the regional and cultural differences were not obvious when viewed from inside an office, behind a desk, thousands of kilometers away. Once the issues were identified, he could coordinate with the product development team to design and prioritise region-specific modifications and improvements.

Being far from home, he was want to play tourist while he had the chance. He had gone shopping at a market that operated under cultural restrictions. Although everything available was on display (nothing was hidden), some items could only be purchased by certain persons. Kira had not known this, and had picked up and attempted to purchase a restricted item as a souvenir. Other shoppers, seeing him as a foreigner and likely not adequately educated in their culture and with no local guide, attempted to intervene. They cited his ignorance, his unintentional mistake. There were reassurances for Kira and a statement to the proprietor: we all want to do the right thing, but how can we if some of us do not know what that 'right thing' is? (Kira remembered another situation where a similar question was raised: *Every time I have to test the limits,*

*challenge the rules just to figure out what they are. How does anyone learn the rules?)*

That it was an innocent mistake had not mattered then. It was a mistake and he was detained for it. Worse, the implied seriousness of the situation escalated in the investigation which went beyond the incident at the market. The scope grew to include his business activities, why he was here to begin with. In conjunction with visiting customers and reviewing their needs, he had been gathering data. Some of it was directly supplied by the customers: usage patterns and related issues; sample data sets for use in analysing and solving problems back home in the product development lab. Some he had collected himself, discreetly, though he likened that activity to holding out a bucket in a rainstorm. It was all public and publicly available information. He had simply stored some of it. That, it seemed, was a much more serious offense.

For much of those four weeks, Kira was left to wonder, alone with himself. After two days of investigation, there were no more questions and no assurances of what was happening or how long it would take. There was no explanation when he was released. They presented him with the things that had been recovered from his hotel room and told him, “Please go home now.” So he did . . .

And that one time exhibiting at a trade show to represent the product. Customers, potential customers, and curious bystanders all became an unwanted audience for his frustrations. He was there to demonstrate the *system*, but he was only responsible for the software. Another vendor had provided the hardware, something new that he was not yet familiar with, though it had

been tested and approved. That hardware vendor had not provided a representative to demonstrate the hardware. Kira had to figure it out himself, in front of that audience . . .

After so many interactions with customers, cataloging their interactions with the product, Kira had developed a plan for managing the customer experience with the product. Life-cycle management in three phases. Start-of-Life ('SOL'): product development, marketing, customer education. Mid-Life ('ML'): sales and general support, maintenance. End-of-Life ('EOL'): product retirement, replacement, transition to another SOL/ML product, including re-purposing old equipment if feasible. Kira had musings about analogies to human life and social structures, managing the transitions, but he kept that to himself.

Still standing at the top of the stone steps, still looking out into the mist, he heard a noise coming through the open doorway from the room to his right. Kira turned and went into the still-dark room. Val had come up in the elevator from the kitchen and had bumped into something in the dark. She found the refrigerator, opened the door, and pulled out a box. Then she held the box out toward Kira and said, "Eggs." He knew that meant it was time for breakfast and his sister wanted him to cook. He accepted the carton of eggs and she went back around to the elevator. He took the stairs.

Kira set the carton down on the kitchen counter. Eggs for breakfast and nothing else, that is what it had been before. He looked over at the old worn table where Val was sitting, studying her sketch of the site layout, pencil held hovering in consideration. Somehow this felt

different. She was behaving differently than she had in the planning and implementation of her other ventures. Something made him think that this was *personal*, that what she wanted to do wasn't just another time-wasting money-making adventure. She really would be committed to this.

After breakfast, looking at Val's sketch from across the table, Kira was mentally reviewing her plan for the Company: a think-tank, privately operated, to consider and suggest solutions to the world's most difficult and pressing problems. That got him thinking about how to get her to open up about her real intentions and expectations. He said, "Val, have you considered that most of the problems already have solutions? It only looks like the problems still exist because the solutions have failed due to some combination of money, politics, and religion. Meta-problems. Are you proposing to tackle those meta-problems? Or redesign the existing solutions to work with them? The way I interpret the intent of your proposal, that will be necessary. It would be futile to implement solutions that work in the lab but not in the real world – we already have plenty of those."

Val just smiled and started in on her wish list for the Company facility. Kira knew she wasn't serious about everything on that list. Some of those things she may have wanted but didn't really expect to get (maybe). She was asking for them anyway, she always had been ambitious.

Some of the items were sensible. Emergency medical facilities and self-sufficiency for power and water were near the top of the list, as were exercise and recreation. If the Company ended up in as remote an area as she wanted, those could be very important. Kira

thought the supercomputer was a bit much to ask for, though he could foresee its usefulness in big research. He questioned the need for an intrusion detection system with a wide-perimeter early warning array, and the underground bomb shelter – was she expecting to be attacked? And the moat was just pure silliness, even though she was willing to compromise with a mechanical moat monster.

There were two obvious reasons for the remoteness of the site. She wanted to keep the project out of sight: no prying eyes, no questions. Her concept of remoteness included the degree of difficulty in reaching the site, even better if there was no road. She wanted the team to be sequestered, focused, to live the task at hand without interruption, without distraction, without temptation to sneak out to do something else. Difficulty of access would also make it difficult for outsiders to show up, expected or otherwise, and the early-warning array would make it difficult for anyone to sneak up. Except for the fragile-looking glass-paneled dome over the main building, she intended for this to be a fortress. A larger unpopulated buffer space would provide more margin for safety (or liability) should something catastrophic happen.

Despite the importance of this, the geology of the site would be the deciding factor. Geothermal power would be ideal, supplemented by photovoltaics, a small storage array, and maybe even a few vertical wind rotors to make the facility self-sufficient. Kira reasoned that it would be feasible without the supercomputer which Val insisted on that had not been well-defined yet (there was no specification) and might possibly need more energy than everything else combined. There would need to be a reliable source of water for the geothermal power

generation process, and maybe for cooling that supercomputer.

Val also had an idealised fantasy about a bomb shelter (though she didn't call it that, she was selling it as a refuge in case of extreme catastrophe, marked as 'lower shelter' on her drawing). It was to be cut into solid dense rock, and nearly as extensive as the building above it with many chambers and interconnecting tunnels. If the world-as-we-know-it were to end, she would be prepared to live underground and survive indefinitely.

There were three prominent features in Val's sketch: a circular structure, a geodesic dome covering it, and a wall surrounding the entire site. The layout of the building looked like a fat ring divided into three tracks with a wedge cut out at one end. The inner ring was designated as offices and meeting spaces. The outer ring would be residences. The two were separated by a corridor that circled the entire building. The central commons would be inside the building, but the gardens at the far end were to be outside the building and underneath the dome. Public spaces on the inside, personal spaces on the outside. The offices would be accessible from both the corridor and the central commons – Val wanted to make sure there were few barriers to collaboration. Each member of the team would have an office and be expected to furnish and decorate it as they chose, within a reasonable budget. Val reasoned that people would feel less confined, more comfortable, more interested in the project if they had some level of control over their environment. And it would create a variety of environments that she would not otherwise be able to provide. A change in scenery,

just by visiting someone else's office, could stimulate thinking.

The central commons would have a variety of neutral spaces, natural light, plants, various couches, tables and chairs, benches – but all passive: there would be no video, no sound system, no appliances, no computers. It would serve for meals, breaks, quiet discussions outside the personal spaces (even though the offices were designated as public spaces, they weren't really neutral either). The commons could provide a neutral ground in case of conflict. Val figured that with such a group of intelligent and capable and strong people packed together so closely, conflict would be inevitable.

The residences would be personal private spaces, apartments. Everyone would be on-site all of the time. Each individual's apartment would be directly across the main corridor ring from that person's office, separate but together. In contrast to the offices, which would have no windows (being on the inner ring), the residences would have an entire wall of window looking out over the buffer ring, with adjustable transparency (like LCD) and a translucent roll-down shade. The fabric of the shade would diffuse the light enough to make a soft glow to illuminate the room more evenly and pleasantly. It looked like a suite in a hotel, with a main living room, separate bedroom, and a private bath.

There would be a minimal housekeeping and maintenance crew. They and all of the necessities and supplies not directly part of the project research would be located in a first basement. A second basement would house the computing and communications equipment, including Val's supercomputer. A third basement, much deeper, would be for the power and water infrastructure.

Somewhere below the third basement, much lower and not necessarily directly underneath, would be the shelter. She had indicated chambers and interconnecting tunnels on multiple levels reaching outward indefinitely.

At one end, she had indicated a pie-shaped wedge cut out of the building that would be a landscaped garden with plants, small trees, stream, and pond. This would be connected to and part of the central commons.

Outside the dome, a wide flat ring would act as an open-space buffer, maybe a grassy field. The ring could be used as protected farmland in case of extreme emergency; she had sufficient tools and supplies for this on her list. The wall itself would be a massive concrete barrier. Val thought she wanted something at least twenty meters high and three thick (though she would have to consult with the construction engineers about that) and it would be complete with no holes, no gaps, no way to enter or exit. People and supplies would arrive via helicopter. There would be an emergency exit that would be hidden and remain secret unless the need to use it arose – a lower tunnel out, under the wall, and through a lock to a well-disguised opening. Kira wondered how anyone would know to use it if it was a secret.

Val mentioned the possibility of automated laser defenses with infrared and motion detectors as a further deterrent in case the wall itself was not enough. She hesitated to put that in because she was worried about the liability if an innocent person should stumble upon the site. There would have to be an outer perimeter fence and sufficient warnings (signs, lights, audio) and she wasn't sure that would be worth the trouble to install, or worth the expense of someone to monitor the

system. She planned to include the system as an optional upgrade in her design.

An open item on her list was the need for exercise and recreation. She had planned to install a room full of exercise equipment in the first basement, but decided that would not be enough. She wanted isolation but not a complete blackout. There would be a satellite broadcast receiver, but she also considered the potential demand for books, music, and videos. Maybe she could organise sports events of some kind on the lawn? That would have to wait until she could get input from the team members, and that would not be until it was time to move in and start work. And, not counting Kira and herself (and Nisi, though Kira did not know about her yet), there were not even any team members yet.

Once Kira had the overview of the plan for the site, he wondered about the cost. Where did Val think she would get funding for a project of this scale, and what would *that* cost, what strings would be attached? Although there was a solid plan for the physical plant, she had not mentioned anything about a business plan. How did she expect it to generate enough income to cover operational costs? Why start a business without a solid plan for making a profit? Nothing he had seen so far indicated a product or service that would pay. It was all research, thinking about things, not doing or making things.

Laerival explained that this was to be a pure research venture. There was no requirement or expectation that it generate income. An anonymous private donor was providing all of the money for construction, startup, and operation for a minimum of three years. An attorney representing the donor was

managing the Company's finances.

Kira was not quite suspicious, but he was somewhat uncomfortable with the idea of working for some powerful person or entity that chose to remain anonymous for unstated reasons. How much influence would that sponsor have over the project, planning or operation? Val assured him that there would be no influence, this arrangement was double-blind: the donor had no knowledge of where the money went or what it was used for, and she did not know who the donor was. It was simply a matter of using the money in a way that agreed with the one requirement of the donor: benefit humanity.

# About the Author

Benjamin Gayle was born in Richmond Virginia, and has lived in the western mountains of the state for most of his life. Educated in math and electrical engineering, he has worked in a wide variety of capacities including factory automation in automotive manufacturing, and designing motor control systems for a drives manufacturer. He has been an amateur cyclist and bicycle mechanic for more than thirty years, and an amateur radio operator (N1NP) for nearly twenty. Reading was an early passion, followed by writing in his early teens, though that was set aside for decades for career and other responsibilities. He currently works a part-time job while continuing to write.

He has also produced *Spectrum*, a broad overview of the music of composer Charles Irving Gayle, available on CD.

Sample chapters and more information are available at [www.AntonomasiaProductions.org](http://www.AntonomasiaProductions.org).

Books by Benjamin Gayle:

*The Turtle Test*  
*The Frost Bug Dreams*  
*Dreams of Sixteen*  
*Dreams of Seventeen*  
*Dreams of Eighteen*