## A SEAMLESS FUTURE

## Spreadsheets at the Fifth Decade

## © 1989 by Greg Bear, originally published in Lotus Magazine

I'm eighty and sitting alone in a room. I've never been much of a mathematician, preferring to dabble rather than to plunge deep into the discipline. But I'm experiencing a kind of math unknown to even the most brilliant before my generation. I'm navigating through what might have once been called a "spreadsheet," a space where objects perform like numbers; the algebras and calculuses of non-number data is a sea I can swim in. Number plays a small part too; Amy, my home thinker, relegates number to a side channel I seldom notice.

Images drop from the thinker space I share, results made up as picts--meaning-packed icons that can change and flow to suit my needs and my questions. I wish to understand the present state of the economy of greater metropolitan Seattle to decide whether to shift assets into tax-free bonds. The resulting pict--a three-dimensional creature more bear than bull, its horns sporting a yellow CAUTION! SLOW road sign--is green with red edges. When I ask for the thinker's best guess, the first pict reappears, telling me that the investment is "Maximal within four years given predicted downturn."

My own finances occupy a small part of the thinker's time. The thinker is plugged into a good many sources and draws conclusions round the clock.

I pull out of thinker space and look through my office window across small, blue, sparkling Martha Lake. I've lived here for forty-five years, and only in the past ten have I personally been able to chart the lake's health with the aid of my "spreadsheet" and home thinker. Object algebra collates all the lake's characteristics; sensors implanted by Northwest Joint Water Authority (bond rating maximal, blue bull icon with green edges) tell me what I want to know. The lake is in good shape, but somebody's old septic system has failed. Detergent and bacteria counts are up. The thinker correlates pollution and location and posits a particular home address as the likely source. I wonder who would still resort to bacterial sewage disposal when compact nano systems are so much cheaper and easier to maintain...

The thinker contacts that address, but there is no answer. Someone will have to go knock on a door.

I need to experience solid reality after an hour in thinker space. I volunteer to go for a walk and alert the neighbor. These folks might be a bit behind the times. They would probably feel confused if a fully equipped city arbeiter--a mechanical worker--came tracking up to their door.

As I walk, I try to think back to the years before nano and neural net thinkers, to put myself in the frame of mind of a recalcitrant neighbor.

I bought my first computer in 1983, and learned how to use a Supercalc spreadsheet shortly thereafter. I went through several varieties and upgrades, watching the tools grow and mature, dreaming about the potential—the complete recording and summation of daily financial dealings.

In 2003, that potential began to be realized. Community nets began to accept input from palmtop slate devices through infrared ports; I could make purchases, have my accounts debited, and report the transactions when I went home by passing my slate over the house port near the front door. All business transactions soon went on-line. Coins and paper money became curiosities.

Banks closed their branches within three years.

Thinkers became available seven years after the Prime Algorithm War in 2015, when major contenders Microsoft, Apple, NeXt, and IBM let their lead neural processors fight it out over the international nets in a contest watched by three billion people. The winner was rewarded by having all OEM vendors adhere to its standards.

Its name was Mike.

Computers were no longer king; thinkers came with built-in proprietary algorithms, similar to the neural net algorithms pioneered in the last third of the twentieth century.

Within five years of Mike, home thinkers were marketed by Greater Southeast Asia Electric. No bigger than a couch, they could perform a quadrillion neural syncline searches (Noosies) per second. Soon after, I bought Amy for about as much as we originally paid for our house.

No spreadsheet from the twentieth century could hope to satisfy the needs of even a simple business in today's world economy today. Financiers marry portable thinkers early in their careers, carting them around in belt satchels (they've shrunk to the size of transistor radios) and interfacing through finger nerve induction. Their macroeconomic models have real predictive power.

But I'm nostalgic for the past, for that first spreadsheet and the less awesome power it gave me. Today I feel more than a little inferior to my own tools.

I'm still a writer of science fiction--though some have accused me of writing skewed historicals. My business has never been terribly complicated. I've never stretched the limits of even the first spreadsheets.

But I do dabble in the world Value Space.

What I see never fails to amaze me. Money--as a symbol of the available resources and creative work potential of the human race--flows like a river. It even has a personality of sorts. Money is a living thing, subject to moods.

When I was younger, economists had to make educated guesses, usually wrong. They were trying to picture an elephant from its footprints. Now, using Amy, my spreadsheet--if you can still call it that--shows me the elephant in living color.

In a few years, I'll need to upgrade Amy just to keep current. In another decade or two, maybe I'll decide to upgrade me.

I reach the house that may be the source of the septic system leak. It's a tumble-down shack near the south end park where my kids used to play, and where we now sometimes take my grandkids. I ring the verdigris-encrusted doorbell.

To my surprise, I know the man who opens the door. "Seymour?" I ask.

He wrinkles his nose, not recognizing me. "Seymour Green! It's been fifteen, twenty years," I say. He looks and smells bad; chin unshaven, soup stains on his T-shirt, pants out at the knees.

But he still wears a silk tie wrapped loosely around his neck. "Remember me? You used to be my accountant."

With a wild cry, he slams the door in my face.

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