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A formal technical text

A Processor and related topics

In modern computing architectures, the processor rarely works alone.

A coprocessor often handles specialized tasks, while a display processor manages screen output and a video processor optimizes rendering. In embedded systems, an embedded processor interacts directly with sensors, and a floating-point processor accelerates mathematical calculations. Larger systems may rely on a front-end processor, acting as a communication controller, and on a keyboard processor that interprets input events. Every transformation of information—whether performed by a language processor, a word processor, or a raster image processor—is part of a broader data processing chain. In complex environments, a scalable processor or a tandem processor enables growth and redundancy, while a microporcessor-based postprocessor refines outputs in the final stage. These architectures can be extended with bitslice microprocessor designs for modular arithmetic-heavy tasks or with centralized processing for unified workflow control. Traditional organizations relied on automatic data processing, electronic data processing, and batch processing, but modern systems require event-driven processing, real-time processing, and interactive processing. Large services depend on online transaction processing, which keeps systems in a permanent online state, ensuring continuous availability. Distributed infrastructures support online network computing, where many nodes interact in real time within a shared online architecture.

Scientific systems rely on concurrent processing, cooperative processing, and simultaneous processing to distribute computational loads, while specialized engines perform digital signal processing, audio processing, text processing, and image processing applications.

Programming environments like LISP (List Processing) illustrate how list processing and knowledge processing shape artificial-intelligence systems.

High-performance platforms employ pipeline processing, sequential processing, single-instruction–multiple-data (SIMD) stream processing, and teleprocessing to maintain throughput across the entire system.

Before any computation begins, preprocessing structures the input so that the processor chain can function smoothly, following recognized standards such as the Federal Information Processing Standards (FIPS).

Through all these modes of command processing, document processing, and system-level orchestration, the processor **family—enhanced by continuous online capabilities—forms the core engine of computation.**

A informal technical text

(an excerpt from Greg Egan's text ***Permutation cities***)

Maria Deluca had ridden past the stinking hole in Pyrmont Bridge Road for six days running, certain each time, as she'd approached, that she'd be greeted by the reassuring sight of a work team putting things right. She knew that there was no money for road works or drainage repairs this year, but a burst sewage main was a serious health risk; she couldn't believe it would be neglected for long.

On the seventh day, the stench was so bad from half a kilometer away that she turned into a side street, determined to find a detour. Close up, the mural was unimpressive, the brushstrokes

clearly visible, the perspective obviously false. Maria backed away—and she didn't have to retreat far to see why she'd been fooled. At a distance of twenty meters or so, the painted sky suddenly seemed to merge with the real thing; with a conscious effort, she could make the border reappear, but it was hard work keeping the slight difference in hue from being smoothed out of existence before her eyes—as if some subsystem deep in her visual cortex had shrugged off the unlikely notion of a sky-blue wall and was actively collaborating in the deception. Further back, the grass and statues began to lose their two-dimensional, painted look—and at the corner where she'd turned into the cul-de-sac, every element of the composition fell into place, the mural's central avenue now apparently converging toward the very same vanishing point as the interrupted road.

Having found the perfect viewing position, she stood there awhile, propping up her cycle. Sweat on the back of her neck cooled in the faint breeze, then the morning sun began to bite. The vision was entrancing—and it was heartening to think that the local artists had gone to so much trouble to relieve the monotony of the neighborhood. At the same time, Maria couldn't help feeling cheated. She didn't mind having been taken in, briefly; what she resented was not being able to be fooled again. She could stand there admiring the artistry of the illusion for as long as she liked, but nothing could bring back the surge of elation she'd felt when she'd been deceived.

She turned away.

Home, Maria unpacked the day's food, then lifted her cycle and hooked it into its frame on the living-room ceiling. The terrace house, one hundred and forty years old, was shaped like a cereal box; two stories high, but scarcely wide enough for a staircase. It had originally been part of a row of eight;

four on one side had been gutted and remodeled into offices for a firm of architects; the other three had been demolished at the turn of the century to make way for a road that had never been built. The lone survivor was now untouchable under

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some bizarre piece of heritage legislation, and Maria had bought it for a quarter of the price of the cheapest modem flats. She liked the odd proportions—and with more space, she was certain, she would have felt less in control. She had as clear a mental image of the layout and contents of the house as she had of her own body, and she couldn't recall ever misplacing even the smallest object. She couldn't have shared the place with anyone, but having it to herself seemed to strike the right balance between her territorial and organizational needs. Besides, she believed that houses were meant to be thought of as

This end of Pyrmont was a depressing sight; not every warehouse was empty, not every factory abandoned, but they all displayed the same neglected look, the same peeling paint and crumbling brickwork. Half a dozen blocks west, she turned again—to be confronted

Upstairs, in the bedroom that doubled as an office, Maria switched on her terminal and glanced at a summary of the twenty-one items of mail which had arrived since she'd last checked. All were classified as "Junk"; there was nothing from anyone she knew—and nothing remotely like an offer of paid work. Camel's Eye, her screening software, had identified six pleas for donations from charities (all worthy causes, but Maria hardened her heart); five invitations to enter lotteries and competitions; seven retail catalogues (all of which boasted that they'd been tailored to her personality and "current lifestyle requirements"—but Camel's Eye had assessed their contents and found nothing of interest); and three inter-actives.

The "dumb" audio-visual mail was all in standard transparent data formats, but interactives were executable programs, machine code with heavily encrypted data, intentionally designed to be easier for a human to talk to than for screening software to examine and summarize. Camel's Eye had run all three interactives (on a doubly quarantined virtual machine— a simulation of a computer running a simulation of a computer) and tried to fool them into thinking that they were making their pitch to the real Maria Deluca. Two sales programs—superannuation and health insurance—had fallen for it, but the third had somehow deduced its true environment and clammed up before disclosing anything. In theory, it was

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possible for Camel's Eye to analyze the program and figure out exactly what it would have said if it had been fooled; in practice, that could take weeks. The choice came down to trashing it blind, or talking to it in person.

Maria ran the interactive. A man's face appeared on the terminal; "he" met her gaze and smiled warmly, and she suddenly realized that "he" bore a slight resemblance to Aden. Close enough to elicit a flicker of recognition which the mask of herself she'd set up for Camel's Eye would not have exhibited? Maria felt a mixture of annoyance and grudging admiration. She'd never shared

an address with Aden—but no doubt the data analysis agencies correlated credit card use in restaurants, or whatever, to pick up relationships which didn't involve cohabitation.