computer

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## Bugs

## A brief dissertation on the First Law of Cybernetic Entomology

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 $\begin{array}{ccccccc} C & G & F & G \\ And it's bugs, bugs, bugs, bugs, bugs, bugs, bugs, bugs, BUGS! \\ & F & C & G7 & C \\ There's always one more bug. \end{array}$ 

Columbia stood ready for her first trip to the sky: America's first shuttle, with the whole world standing by, But with thirty seconds left to go a warning flag unfurled And it took them all next week to find the Bug Heard Round the World.

They were heading for the tropics on a long range testing flight The crew on board the brand-new jet thought things were working right 'Til they went past the Equator and the plane flipped upside down, They damn near took the software team and ran them out of town.

A tapeworm laid the network low; it spread itself around Through loopholes in the system code its programmer had found; But not all of the bugs it found were relics from the past: One more bug made the tapeworm spread a thousand times too fast. *spoken, slowly:* And when the final program's run and all its data saved

They'll take the last dead programmer and lay him in his grave

And the very last bug left in sight, a cockroach passing by

Will walk across his coffin there, as if to say, "Nice try."

Inspired by the poem, "The Last Bug", published in *Datamation* in the late 60's. All verses except the last are more-or-less based on true stories, though I'm told that the problem with the F15 (a sign change caused by arithmetic overflow) was actually found in simulation.

The Bug Heard Round the World was the title of the article about the incident in IEEE Spectrum; the "tapeworm" verse refers to the infamous Morris Internet Worm. The "chad" verse refers (in case you've just gotten off a spaceship from Mars) to the iterated vote-counting in Florida after the 2000 US presidential election.

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From the Songbook of

Steve Savitzky

Hyper∫pace Expre∬

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## obsolete

The century was ending, everybody knew the date; Fixing bugs involving two-byte date-fields simply couldn't wait. But in the week that followed many fools were heard to moan: "I could have fixed that program too if only I had known."

The martian rover landed seeking for an ancient sea But first a software bug found out an Opportunity; An upload failed; it crashed, so it rebooted once and then Because its flash was full of files rebooted once again (and again, and again, ...)

The century-old keypunch was a well-designed machine With punches and their matching dies to make holes crisp and clean But little pins and precut cards can't help leave hanging chad That left folks down in Florida to cry out "we've been had!"

And it's chad, chad, chad, chad, Chad, chad, chad! We're counting pregnant chad!