

Lynn's Story

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Photo of Lynn by Bill Pugliano, Oct. 11, 2000

This is the story of a woman who made amazing contributions to society, in spite of intense ostracism and stigmatization just for trying to be herself, and how she did it by taking on a secret new identity, and living her life in "stealth mode".

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Lynn Conway is a famed pioneer of microelectronics chip design. Her innovations during the 1970's at the Xerox Palo Alto Research Center (PARC) have impacted chip design worldwide. Many high-tech companies and computing methods have foundations in her work.

Thousands of chip designers learned their craft from Lynn's textbook *Introduction to VLSI Systems*, which she co-authored with Prof. Carver Mead of Caltech. Thousands more did their first VLSI design projects using the government's MOSIS prototyping system, which is based directly on Lynn's work at PARC. Much of the modern silicon chip design revolution is based on her work.

Lynn went on to win many awards and high honors, including election as a Member of the National Academy of Engineering, the highest professional recognition an engineer can receive.

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What no one knew till recently is that Lynn also did earlier pioneering research at IBM in the 1960's. Fresh out of grad school, she invented a powerful method for issuing multiple out-of-order instructions per machine cycle in supercomputers. By solving this fundamental computer architecture problem way

¹ <http://ai.eecs.umich.edu/people/conway/conway.html>

back in 1965, she made possible the creation of the first true superscalar computer, and participated in its design at IBM. Lynn called her invention dynamic instruction scheduling (DIS).

By the 90's, chips held enough transistors so that entire superscalar computers could be put on single chips. Lynn's DIS invention suddenly became used in almost all the powerful new PC chips, making them much more powerful than they'd otherwise have been. Lynn's work thus had yet another big impact on the modern information technology revolution.

Most computer engineers thought DIS was a generalization of decades of work, and had no idea it had been invented in 1965. It caused Lynn great angst to see her wonderful invention so widely used, and described in all the computer architecture textbooks, without anyone knowing it was her idea.

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How could this oversight have happened? Why did Lynn remain silent for over three decades about her IBM work?

The answer is that women like Lynn have lived, especially in the past, in a holocaust of stigmatization, persecution and violence. They could not reveal their past identities without risking great physical danger to themselves, and great harm to their careers and their personal relationships.

You see, Lynn was born and raised as a boy. It was a terrible mistake, because Lynn had the brain-sex and gender identity of a girl. However, back in the forties and fifties there wasn't any knowledge about such things, and Lynn was forced to grow up as a boy. She did the best she could at it, but suffered terribly from what was happening to her. She was still a boy and had a boy's name when she worked at IBM.

After years and years of trying to find help, she finally connected with the pioneering physician Harry Benjamin, M.D. in 1966, shortly after he'd published his seminal textbook *The Transsexual Phenomenon*. That text was the first to describe the true nature of, and medical solutions for, Lynn's mis-gendering affliction.

With Dr. Benjamin's help, Lynn began medical treatments in 1967. She became one of the very early transsexual women to undergo hormonal and surgical sex reassignment to have her body completely changed from that of a boy into that of a woman. Sadly, just before Lynn underwent sex reassignment surgery in 1968, she was fired by IBM for being transsexual and lost all connections to her important work there.

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Lynn's case was a first at IBM. The idea that a professional person would seek a "sex change" totally shocked IBM's management. Most transsexual women seeking help back then were from among those who worked as "female impersonators" or as prostitutes. Only those who were sure they could fully pass as women, who were totally desperate and who had nothing to lose, dared to change gender back then. When top IBM management learned what Lynn was doing, she was fired in a maelstrom of animosity. It is almost certain that the decision was made by T. J. Watson, Jr., himself.

Lynn had managed to put together some fragile bits of support and help from her family and friends. However, when IBM fired her everyone lost confidence in what she was doing and her support system collapsed. Lynn went abroad for her surgery, all alone. She had lost not only her career and professional reputation, but also her family, relatives, friends and colleagues. She faced a frighteningly uncertain future without a soul in the world to help her other than her doctors.

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When Lynn returned, she made her social transition and took on her new name. She started her career all over again as a lowly contract programmer without a past. A gritty survivor, her adjustment in her new role went completely against the dire predictions of the IBM executives and all the family and the friends who had deserted her. All alone she went out into the world, made new friends and worked hard to succeed in her new life.

Amazingly, Lynn became so happy, and so full of life and hope after her transformation, that her career took off like a rocket. Moving up through a series of companies, she landed a computer architecture job at Memorex in 1971. In 1973, she was recruited by Xerox's exciting new Palo Alto Research Center, just as it was forming.

By 1978, just 10 years after her gender transition, Lynn was already on the verge of international fame in her field for her VLSI innovations. By then she was writing the seminal textbook on the subject, and was heading off to M. I. T. to teach the first prototype course on VLSI systems.

Within two years, universities all over the world were adopting her text for similar courses. The Department of Defense started a major new program to sponsor research to build on her work. Scores of startup companies began incubating and forming to commercialize the knowledge. All this happened without people catching on to Lynn's secret past. She could never have survived and done it if they had.

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In the 80's and 90's, Lynn went on to enjoy a wide-ranging, influential career, and a wonderfully adventurous, fulfilling and happy personal life. She is now Professor of Electrical Engineering and Computer Science, Emerita, at the University of Michigan in Ann Arbor, where she also served for many years as Associate Dean of Engineering. She now lives on country property in rural Michigan with her husband Charlie. They've been together since 1987.

However, for 31 years after her transition, Lynn carefully remained in "stealth mode". Only her closest friends knew about her past. Lynn knew of other transsexual women who had been socially ostracized, ghettoized, beaten, gang-raped, murdered or driven to suicide when "read" or otherwise discovered by brutal, hateful people.

For years Lynn lived with an ever-present sense of danger, fearful that exposure of her past could cause her to lose her civil rights, legal rights and employment rights, and to suffer estrangements in her professional and personal relationships.

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In 1999, computer historians finally stumbled into Lynn's early IBM work. They tracked it down to her, and her past was revealed amongst her colleagues. Frightened at first, she gradually realized times might have changed enough that she needn't be afraid to be "out" now. She certainly has nothing at all to be ashamed of, and is indeed very proud of the successes in her personal life as well as those in her career.

At the same time, Lynn was dismayed that transsexual women are still treated so inhumanely by parents, relatives, employers, the legal system and society at large. The total rejection of teenage transgender and transsexual girls-to-be by their families is especially tragic, since it often happens just as they first cry out for help, and can doom them to years of marginalized existence.

Lynn began to think that her story might help somehow. Societal views are partly a media problem. Images of transsexualism routinely come from stories of "transition". That's a time when media can focus on prurient, somewhat shocking and often embarrassing aspects of someone's gender change. The stories seem superficially sympathetic, but often convey a sad, dreary image. Readers are left feeling sorry for the "poor things", and "certainly wouldn't want it to happen in their family"!

What doesn't come through is the miracle of release from entrapment in a male body that the transsexual girl experiences, and the happiness she finds as a woman later on. Folks never learn about the tens of thousands of post-operative women living among us who are very successful and fully accepted as regular gals. The public simply never sees these successes.

Why is this? Because almost all these women live in stealth, just as Lynn did, fearing what might happen if their pasts were revealed. Meanwhile, tens of thousands of young pre-operative transsexuals live in fear and doubt about their futures. They are often excommunicated by their families and lose their jobs, as had happened to Lynn, when they identify their problem and seek medical help.

Lynn is the first truly successful case to come out of long-term stealth and tell her story. That story should give hope to young transsexuals. It should help parents see possibilities for happiness for a transsexual daughter-to-be, especially if they were to support their child's efforts to transform a "boy's" body and become a woman early enough in life. It should also give employers pause for thought before firing someone - just because of their Transsexualism.

The day will come when gender transition is no longer be seen as a sad, somewhat shameful and tragic event, but instead as a wonderful life-giving miracle for those so unfortunate as to have been mis-gendered at birth. Lynn hopes to live to see that day.

For background on transgender, transsexual and intersex issues, see [TG/TS/IS Info](#).²

For more about Lynn's accomplishments, see her [BioSketch](#) ³

For more on her story, see her [Retrospective](#) ⁴ and also

Lynn's Homepage: <http://www.lynnconway.com>

A Los Angeles Times Sunday Magazine Feature Story about Lynn

can also be retrieved at:

[Through the Gender Labyrinth.pdf](#) ⁵

² <http://ai.eecs.umich.edu/people/conway/TS/TS.html>

³ <http://ai.eecs.umich.edu/people/conway/BioSketch.html>

⁴ <http://ai.eecs.umich.edu/people/conway/RetrospectiveT.html>

⁵ <http://ai.eecs.umich.edu/people/conway/Media/Through the Gender Labyrinth.pdf>