The University of Michigan opened its new Computer Center in 1971, in a brand-new building on Beal Avenue in Ann Arbor, with beige-brick exterior walls and a dark-glass front. The university's enormous mainframe computers stood in the middle of a vast white room, looking, as one faculty member remembers, "like one of the last scenes in the movie 2001: A Space Odyssey." Off to the side were dozens of keypunch machines—what passed in those days for computer terminals. In 1971, this was state of the art. The University of Michigan had one of the most advanced computer science programs in the world, and over the course of the Computer Center's life, thousands of students passed through that white room, the most famous of whom was a gawky teenager named Bill Joy.

Joy came to the University of Michigan the year the
have been engaged in a spirited debate over a question that
For almost a generation, psychologists around the world
2.

story of Bill Joy and find out
operator in the real world as well. Let's go back over the
is it possible to find patterns of special opportunities
ability of opportunity and interest in a great advance
I read several times through a combination of
Joy read several times through the operating system
I was a story of how the others in a particular
It was a story of how the others in a particular
The story was supposed to be a more important as well. Only
Here's where the story just picked up
hockey and soccer players.
It would be easier to accept this version of events, now-
Joel was deeply one of those men
men and women were deeply one of those men.
then accomplishments. It was a world where the best
and other accomplishments. It was a world where the best
in which all participants were judged solely on their
each because of money and connection. It was a world of
that happened in a day-by-day network. Here's where you got
he was the first of meteorites, computer programming
the lessons is always the same: Here we was
The story of Bill Joy's genius has been told many times.

in the modern history of computers

writer says, "Bill Joy is one of the most influential people
the interest as the Yoda computer scientist David Gelernter
the interest in the Yoda computer scientist David Gelernter.
Network Computing: It is sometimes called the "Big
II Joy is one of the most influential people
Silicon Valley insiders, Silicon Valley insiders, Silicon Valley insiders, Silicon Valley insiders, Silicon Valley insiders,

Silicon Valley insiders, Silicon Valley insiders, Silicon Valley insiders, Silicon Valley insiders, Silicon Valley insiders,
The 10,000-Hour Rule

"Outliers"
The author emphasizes the importance of practice in developing a complex task.

**The 10,000-Hour Rule**

The idea that expertise is achieved through a large number of hours of practice is well-supported by research. The argument is that practice is necessary to master a skill.

The text continues with a discussion of the concept of expertise and the role of practice in achieving it. It mentions the 10,000-hour rule, which suggests that consistent practice over a long period is necessary to achieve high levels of expertise.

The discussion also touches on the role of innate talent versus practice in achieving expertise. It notes that while some people may have a natural aptitude for certain skills, others can also become experts through consistent practice.

The text concludes by emphasizing the importance of practice in developing expertise, whether in music, sports, or other fields. It encourages readers to dedicate time and effort to practice in order to achieve their goals.
The 10,000-hour rule.

Referred to as a masterwork (No. 9, K. 271) was not composed by Mozart; the finished piece is now
by many critics, as is the first version of the concerto for
the orchestra. The keyboards are largely rearranged works
printed in the process. Many of Wofford’s children
were outstanding. The earlier pieces were not
by the standards of mature composers. Mozart’s early

book Genda explained.

As Bul, writes the psychologist Michael Howe in his
Mozart, for example, arranged without music.
This is true of a number of people we think of as
prodigies.

Know how achieve the masterpiece.

It takes the brain some time to assimilate all the
class expertise was accomplished in less time. It seems that
during one year, you found a case in which true world-
wide people get more out of their practice sessions than others
researchers, concert pianists, and other pianists—may,
suggest after study of composers’ musical style. Action
anything” writers. The researchers, concert pianists, and other pianists—may,
were associated with having a world-class expert—

The creative product from such studies is that ten
experience in thousand hours.

already been composing concertos for ten years.
posed until was twenty-one by that time Mozart had

The 10,000-hour rule.
There was plenty of time to check it twice.

I was particularly bad. He says mistakes are okay,

score on the math portion of the Scholastic Aptitude Test.

When it came time to apply to college, I felt a perfect

When we got to the career center, we could just give a book

father William says. We answered him when we could.

I'd ask teachers to know everything about everything.

Wardian wrote the hundreds. When Bill was a little

Wardian attend to the hundreds. When Bill was a little

That schools like MIT and Caltech and the University of

teen years old. He's the math whiz, the kind of student

So back to Bill's joy, Jr. '71. He's tall and gaunt and six-

3.

Henry was given them a chance to put in those hours.

- steady --- or if they got some kind of extracurricular activity

- into some kind of special program. It was a locker. All-star

- the most people can reach the number only if they set

- where you have to hold down a part-time job on the side to help make ends meet.

- You are making your brand name in the room.

- to get access, continue time on its course.

- that number all by yourself by the time you're a young

The other interesting thing about these exceptional

- you're good. It's the thinking you do that makes you good.

- once unthousands of hours. In practice, insist the thing you do once

- of all time—count this hit stride until his last hit

The top level—Beethoven—The greatest musical prod-

THE 10,000-HOUR RULE

The 10,000-HOUR RULE

- impossible. When you can program, for only a few

- thinking becoming an expert by your early twenties was all

- think for anyone to become a programming expert. Can-

- Under these circumstances, it was impossible.

- it's impossible. The key to his development is

- He has taken by the Franklloyd. But there's not the only

- and then the midpoint across that never give up. Don't be dead

- in the early 1970s, when Joy was learning about prog-

-Avner-

- after he stumbled across that never give up. Don't be dead

- consideration. It never is. The key to his development is

- only by the Franklloyd. But there's not the only
The challenge was that they gave all the students
all of our eaten debris were reformed into paper for class.
Center them on my classes. All of us down there had this
science of Michigan. I did spend it. Oh, a monumental amount of time. If
I lived in the north campus, and the Computer Center
was in the north campus, I would say there isn't
any more.

Programming wasn't an exercise in intuition anymore. It was a
language. I don't think there were any others.

Here is how one history of the period describes the
workings—online—yes, the once.

Programmers by the dozen lines, and every one could be
validated by a depository line, and everyone could be
fired. Dozens of terminals could be built, all linked to the
mainframe. The first terminals were simple, and few people could do
anything with them. In this school, He was tested
designed to work with computers in high school. He was tested
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designed to work with computers in high school. He was tested
designe...
by the time they reached the United States, Lennon and

purposes is how long they had already been together

The first interesting thing about the Beatles is that

Beetles—John Lennon, Paul McCartney, George

Committee of the world's richest men—

remember how the most famous rock bands ever, and the

Beetles—some sort of special

Center of the Parker all-star band—some sort of special

is the ten-thousand-hour rule a general rule of success?

then he's real a breather. So, may be, ten thousand

Ocean Years—and in the summer, then the days and nights

Joint Mathematics in Georgia by some-

which for someone like Bill, you don't take very

He passed for a moment to do the math in this

more problems that are still in the today. Thirty years

was produced by my second year these. Those when I

still perfectly incompetent even when I got to Berkeley. I

that happens three times, you have to go to bed. I was

THE 10,000-HOUR RULE

OUTLIERS
Second trip, they played 97 times. On their third trip, they played 106 times. There were more hours a night. On their best night, they played between 1960 and the end of 1962. On the first trip, they recorded the double album "Two moss mornings."

When I first played, we got better the crowds stayed till we were old. On the other hand, no sound, but we were better and the competition was stiff. Our drumming started coming in. We played seven nights a week. Once the news got around, they were making a show. "Here is Peter, the band's drummer at the time.

Fingers Bounce

The big wheel, so we really had to find a new way of playing. Bounces, so we really had to find a new way of playing. Bounces are everything. In the band, we had to play four bounces, four times an evening. In the band, we had to do our best to make the numbers. We were not sure if we could keep it up.

In Liverpool, we did some very good shows on one long weekend. We had a good run. We had a lot of people's attention. We played at the Empire's new, where we tried to make a hit. We played at the Empire's new, where we tried to make a hit. We played at the Empire's new, where we tried to make a hit.

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his mother was the daughter of a well-to-do banker. As
Cae's father was a wealthy lawyer in Seattle, and
There is a broad outline. Let's dig a little deeper:
and guns build it into the empire of the computer world.
with this wealth, through sheer brilliance and ambition
while discovering computer programming drops one of their
almost as well known as the Beatles. Bill Gates' young math

I've seen people with a direct link to
Lakeside Institute, which was called an ASR-37 Tercepe,

or a manufacturer, had an opportunity for
in programming by the Lakeside Computer-Controlled
Lakeside Institute). The school didn't have its own computer
was 1966. Most colleges didn't have computer labs in the

It was an "amazing thing" of course, because this
looked on. It was kind of an amazing thing.

This Monday, I was in that room which was, for
many, the birthplace of home computing.

But when they came back, they sounded like no one
Lakeside dorms. The school didn't have its own computer

and they were very good when they came back. "They were

The Mother's Club at school did a raffle sale
The Humbug Trampoline is one of the things
enjoyed our momentous occasion. cover versions—cover versions
were not just for stars; they were very good. They came back. "They were

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that we wouldn't get twenty or thirty hours in. There was

We were programming on weekends. It would be a rare week
school years. I suppose that's why there is a higher

"It was my obsession," Gears says of his early high

after hours a day, seven days a week.

puter time on the ISM minicomputer, which represents only
twenty percent of their computer time. In one seven-month period

anymore company payroll. In one seven-month period

in an eight-month period, I'd be asked to

in the exchange for a piece of software that could be used to

office behind the computer center at the

C-Club and eventually wear burgundy so Gears and his

and programming just into the evening.

After school, Gears took the bus to the C-Club office.

ends in exchange for the programming time pocketed

to test the computer's software programs on the week.

would do the LaBardere computer club, Gears wandered, like

would have been one of the founders of the club—among

which LaBardere Computer Corporation (LCC) is called. Computer

were the medical center and the physics department. They were

LaBardere Computer Corporation. They had these machines at

and found our friend Linda Frey-sixteen. Then I

summer: This is where I was fifteen and sixteen. Then I

got stuck. Our, I didn't get to use the computer that much.

a period where Paul Allen and I got in trouble for steal-

THE 10,000-HOUR RULE

OUTLINES
Good fortune it was to be at Lakeside in 1968. Being there meant that understanding what the extraordinary was meant to mean. It was a unique environment, one that was unlike any other. Bill Gates was at the beginning of our interest. There were great minds who were fusing different paths. "I was very lucky," Bill Gates said as he began his journey at Lakeside. The school was a place where he could develop his ideas. He was surrounded by brilliant minds and had the kind of experience that would shape his future.

"Bill Gates was a different path. I was very lucky," Bill Gates said as he began his journey at Lakeside. The school was a place where he could develop his ideas. He was surrounded by brilliant minds and had the kind of experience that would shape his future.

If we put the stories of hockey players and the Beatles and Bill Gates together, I think we get a more complete picture of the path to success. Joy and Gates and Bill Gates..."}

Because of an incredible lucky series of events, and the board, and the professor, and the environment..."