To Takako

Husband, Father, Grandfather

PuzzleMaster, Genius, Legend

International Ambassador of Puzzles

One of the Best Puzzle Inventors That Ever Lived

Rememberances by a friend.

July 2004
Nob Yoshigahara

Puzzlemaster, genius, International Ambassador of Puzzles, legend and one of the best puzzle inventors the world has ever known, are some of the terms that have been used to describe Nob. His enormous accomplishments encompass inventing and designing about two hundred mechanical puzzles which were produced commercially, with at least eight million sold in Japan and America. Rush Hour, made and sold by ThinkFun, is one of the most popular puzzles of all time. It has received fourteen awards from educational and popular publications. Nob also invented or helped to develop other ThinkFun puzzles; Hoppers, Flip-it, Shape-by-Shape, and Lunar Lockout.

At its annual convention in 2003, the Association of Game and Puzzle Collectors (AGPC) awarded their highest honor, The Sam Loyd Award, to Nob Yoshigahara, shown in Figure 1, for his “Lifetime achievements in the design of mechanical puzzles.”

Figure 1. Nob at AGPC Convention, 2003

badge, shown in Figure 2, shows a pair of left and right facing silhouettes of Nob forming the stand supporting several of his puzzles. His acceptance of the award is shown in Figure 3.

Figure 2. Nob’s AGPC double silhouette badge.

Figure 3. Nob accepts the AGPC Sam Loyd award for his lifetime achievements in puzzle design.

Mechanical Puzzles

Nob invented his first mechanical puzzle in 1955 at age nineteen. He named the puzzle, “Dualock” which provided a clue to the solution. Figure 4 shows a transparent version and the wooden production version made by Japanese puzzlemaker, Hikimi. To solve the puzzle, you must spin it to release one set of pins that lock it together. Then you must carefully turn it over, while preventing the first set of pins from re-locking the pieces, and spin it a second time to release the second set of pins.
During the last twenty-five years Nob has been a driving force in developing, promoting and popularizing puzzles in Japan. He designed or helped develop almost all of the forty-nine unusual and elegant "Glass Puzzle Collection" for Toyo Glass Company. The "Pack the Plums" puzzle, shown in Figure 5, was their best seller. The plums represented are extraordinarily sour Japanese pickled plums, and if you succeed in packing them in the glass, a very difficult task, you can turn the glass upside down and the nine pieces will not fall out.

Figure 4. Nob's first mechanical puzzle invention, at age 19, the DuaLock.

Nob was invited by the Mayor of Hikimi, a small Japanese town that was losing population, to supervise establishing a large puzzle exhibition and "Puzzland Hikimi", a factory that made wooden puzzles using wood from their nearby forests. Nob also designed many of the fifty-seven wooden puzzles made by Hikimi. Figure 6 shows two of the Hikimi puzzles. Many of Nob's puzzles produced by Hikimi, are shown in Nob's book, Puzzle in Wood, published in Japan in 1987.

Hanayama's thirty-five "Cast Puzzle" series was also developed by Nob. The series began using Nob's improved versions of antique cast iron puzzles from the USA and England. Then Nob developed numerous new cast puzzles. Some were based on ideas from expired patents, but considerably improved to provide excellent puzzles. And he worked with other puzzle designers from Japan, Europe and America to develop many new cast puzzles. Figure 7 shows the improved, classic "Star" puzzle, "Flag" puzzle based on an expired

Figure 5. Pack the Plums, center, was the best seller of the Toyo Glass puzzles.

Figure 6. Hikimi wooden puzzles with Nob's T Puzzle on top.

Figure 7. Cast Puzzles by Hanayama, Flag, Star and Amour.
American patent and Akio Yamamoto's new "Amour" Puzzle. Nob's television appearances and continuous video sales pitch that is played in 3,000 stores throughout Japan has increased the sales of Hanayama's Cast Puzzles ten-fold in the last several years.

Japanese customers have found that his silhouette on the boxes of these series of puzzles (Figure 8) guarantees a very high quality puzzle that is fun to solve. And his puzzles have developed a large following. This is shown by the interesting fact that the most difficult Cast puzzles are the best sellers.

Figure 8. Nob's silhouette.

Nob had an extraordinary talent and ability to improve old puzzle designs as well as invent entirely new puzzles. While he was translating Jerry Slocum's New Book of Puzzles into Japanese, he realized that one of the solitaire puzzles, The Great 13 Puzzle, patented in 1899, had a lot more potential than was used in the original puzzle. He and his team of Japanese designers came up with 40 problems, in four levels of difficulty, using the same board. This puzzle was manufactured and sold by ThinkFun and when Hoppers came out, my Grandchildren, Jack (age 7) and his sister, Sydney (age 11), were so taken by the puzzle that they sat down for several hours, without getting out of their chairs, and solved all 40 problems that came with Hoppers (Figure 9).

Another example of his ability to redesign an old puzzle is the 100 year old classic "T" Puzzle. Nob modified the dimensions of the four pieces of the T Puzzle, provided twenty additional assembly problems to be solved with the pieces, and more than four million copies of Nob's "T" Puzzle have been sold (See Figure 6).

Nob has helped and taught many puzzle designers in Japan, Europe and America and has helped get puzzles of other designers produced. Nob's Studio in Tokyo was a friendly gathering place for puzzlers from around the world, with thousands of puzzles to play with. Figure 10 shows Nob with two other famous puzzle designers he worked with, Oskar van Deventer, from the Netherlands, and Bill Cutler, from America. Figure 11 shows Nob with his friends, famous Japanese puzzle designer and craftsman, Akio Kamei and MasterCraftsman Yoshiyuki Ninomiya.

Figure 9. The original 13 Puzzle and Nob's improved version, Hoppers, by Think Fun.

Figure 10. Nob with puzzle designers Oskar van Deventer and Bill Cutler.
With 14,000 puzzles, Nob has the largest collection of puzzles in Asia, as well as a huge library of puzzle books. Figure 12 shows him with two puzzle collector friends, the late Edward Hordern, and Jerry Slocum.

Figure 11. Puzzle designer and craftsman, Akio Kamei and MasterCraftsman Yoshiyuki Ninomiya with Nob.

Math Puzzles
Nob also created mathematical puzzles too numerous to count, wrote sixty puzzle books, as many as sixteen monthly columns and translated English and German puzzle books into Japanese. Three longtime American friends who enjoyed challenging Nob, and vice-versa on math puzzles are Don Knuth, Sol Golomb and Dick Hess.

Don Knuth, Professor at Stanford University
Nob's letters to me were always inspiring, and they would often cause me to drop everything else I was doing; the problems he posed were so fascinating, I simply couldn't continue work-as-usual. During the summer of 1994 we were sending letters to each other more than once per week, so that they would cross in the mail.

My favorite reminiscence is about the time I sent him my "Pentagon Puzzle Challenge" in September 1994; the problem was to take four small pentagons (red, white, blue, green) and cut them each into four golden triangles — namely, isosceles triangles where the unequal sides have ratio phi to each other (the golden ratio) — then to reassemble those triangles into a larger pentagon, with no two pieces of the same color touching. I had needed a computer to solve it; and I knew that the solution was unique. Early in October he sent a postcard containing an elegant "hiromono" puzzle and added also the following note:

"I solved your extremely difficult problem in only 20 minutes, but some mania puzzler consumed 10 days in vain!"

A few days later I received his letter with the detailed answer; and then came the biggest surprise of all: The postman brought me a package containing a beautiful model of the puzzle, handcrafted from five kinds of wood — exhibiting his solution, and autographed too! (See Figure 13.) This wonderful artifact remains the most cherished item in my personal collection of puzzles.
is: "Starting with a regular trapezoid (top and sides each equal to half the base length), determine all possible dissections which will result in similar parts." Ten specific tasks are then defined. Nob was so excited at finding an infinite set of solutions, he phoned Dick Hess after midnight to tell him of his accomplishment, and later wrote, "I nearly went out of my mind when I discovered it."

Puzzle Parties
One of Nob's favorite magic tricks was making a ball of crumpled paper disappear if front of some unsuspecting subject. Figure 15 shows Nob just after he made the paper ball disappear for Ellen Ireland at IPP 7. Everyone in the room except Ellen saw Nob throw the paper ball (shown above her head) from his right hand an instant before the photo was taken. He also loved to entertain with his slight-of-hand skills using coins, by making them penetrate table tops and magically appear from the ears of amazed, and adoring, children.

In 1982 he brought his son, Takayuki, to his first International Puzzle Party (IPP 5) and Nob never missed one since. Larry Nichols, inventor of a puzzle similar to Rubik's Cube, attended IPP 7 in Beverly Hills, in 1984. Nob burst into the Party from his hiding place, a cardboard Rubik's Cube box, as shown in Figure 16.

Figure 15. Nob's magic made the paper ball disappear for Ellen Ireland.

Figure 16. Nob-in-the-box makes a spectacular entrance at IPP 7.

Nob was the host of the first International Puzzle Party held in outside America, IPP 9 in Tokyo, in 1988. He also was the host of the next two IPPs held in Japan, IPP 12 (1992) and IPP15 (1995). A special Host gift, designed and made by Gary Foshee, was given to Nob at IPP 15 as a token of our thanks. Figure 17 shows Nob's gift (his famous silhouette in Lucite and a six-piece Burr) being handed from Akio Kamei to Jerry Slocum, IPP Founder, who presented the award to Nob. He also helped organize and contributed to the "Puzzles Old and New" Exhibition at the Matsuya Ginza department store on the Ginza in Tokyo, which
attracted 50,000 paid admissions in two weeks in April 1988. The poster for the exhibition is shown in Figure 18.

![Figure 17. Nob is awarded a special trophy for Hosting three Japanese IPPs.](image1)

Figure 18. Poster of the Puzzles Old & New Exhibition.

He was proud of his family and often brought his wife, Takako, or one of his children with him to Puzzle Parties and on his frequent trips to Europe and America. Figure 19 shows his wife, Takako, daughter, Chisato and grandson, Shun, attending IPP 21 in Tokyo in 2001.

**Nob's Life**

Nob did not have an easy life. At age 7, he left Tokyo because of the bombing danger during World War II, and was living with his Grandfather, in Iwakuni, near Hiroshima. He found an English Solitaire board in the dusty attic in the house, and solved the very difficult puzzle of reducing the pegs to one by jumping. When he showed his solution to the adults, who could not solve it, his maid considered him a child prodigy or Second Buddha. He wrote in 1990 that he still recalls the flash of light and sounds when the atomic bomb went off in Hiroshima. And when he returned to Tokyo, "I found it all burnt." Nob's conclusion of these events; "Without this evacuation, exaggeratedly saying, without the World War II, my puzzle life now won't exist. The war, deliberately brought me a chance from puzzle, puzzler & puzzlest." A chemical explosion burned him badly while he was in his late 20's and during the last ten years of his life he had serious problems eating, because his stomach had been removed due to cancer.

![Figure 19. Takako, Chisato and Shum, Nob's wife, daughter and Grandson.](image2)

However, one little known fact of Nob's ancestry can help explain his drive for excellence, persistence and his philosophy of never giving up. He is descended from an Edo era
Samurai who served the Mouri Family, a feudal lord of the Chugoku region of Japan. Nob, however, used his brain, rather than his sword, to solve Gordian Knot puzzles.

He is quite famous for his impossible puzzles, magic, jokes, wit, puns in English and sense of humor. One of his mechanical puzzle jokes is what appears to be a six piece burr, that Nob has carved out of a solid piece of wood. "Nob’s Three-piece" burr, commonly made out of three notched sticks of wood which are orthogonal interlocked, he made out of two notched pieces of wood, as shown in Figure 20.

On June 11, 2004, a week before he died in his studio in Tokyo, Nob visited our home in Beverly Hills. My son, Allan and Grandson, Jack, stopped by to visit with Nob. Both had known Nob for many years. Jack brought his new electric guitar with him to show his Grandparents and Nob. After Jack demonstrated some cords and melodies, Nob was asked if he would like to try playing the guitar, and much to our surprise he said "sure" and proceeded to play cords and melodies (see Figure 21). When we asked him how he knew how to play the instrument, he said that he had played the ukulele in a Hawaiian band. Jack also showed Nob the American way to eat an Oreo cookie, twist and lick! After we heard that Nob had died, I asked Jack what he thought about Nob. Jack said Nob was "Awesome"; "Totally Cool!"

Last year in the "Biographical Information" section of the Directory of Puzzle Collectors and Sellers, Nob wrote, "Petroleum engineer, teacher of chemistry, retired, now. I want to be invited to any place in the world. It is my MUST!"

And travel he did. Legend has it that if more the six puzzlers got together anywhere in the world, Nob would show up. He was always more than welcome and very generous with his time, his attention and his gifts of puzzles.

As we miss Nob, let us celebrate his amazing life, his contributions to the world of puzzles and most of all, his friendship. Nob would want to say "Goodbye" with his appropriate tag line, "Happy Puzzling Forever!"

Jerry Slocum, July 2004