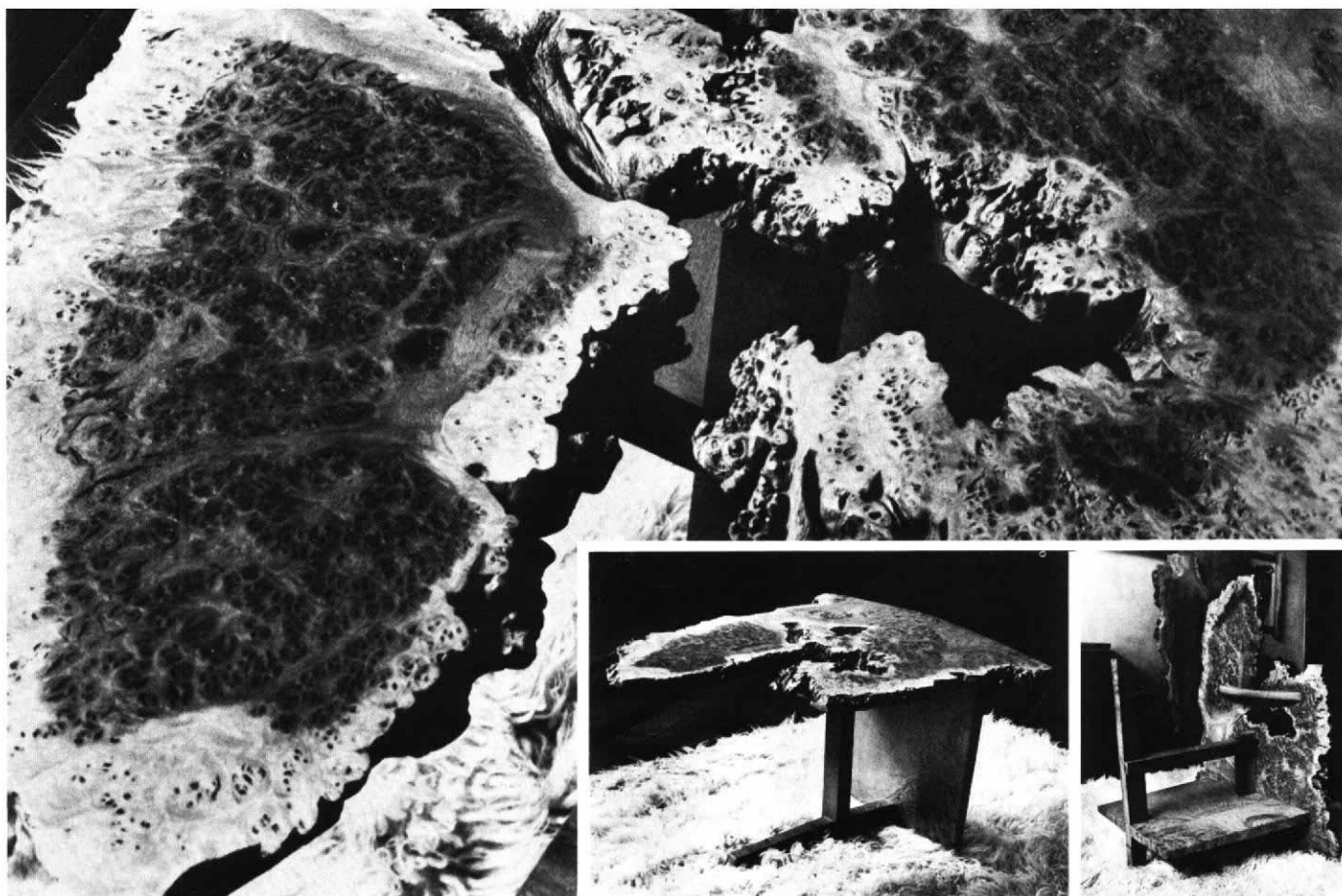




Small table made from a madly extravagant burl, an almost impossible piece of wood. The engineering work on the underside includes an unobtrusive bridge supporting the fragile wood. Conventional bridle joints connect the base elements, with screws holding the top in place.

George Nakashima

For each plank there's one perfect use

by John Kelsey—photographs by Richard Starr

Scattered all over the world are landmark trees of great age and stature, monuments as old as civilization. They are usually past their prime, in the ordinary commercial sense, when they fall before advancing asphalt or the simple weight of age. They are discards, unless a woodworker like George Nakashima gets them. His aim, he likes to say, is to give such trees a second life as useful furniture, perhaps to fashion beauty, and by this work to achieve harmony with the natural forces that grew the tree in the first place.

Nakashima says he has spent the last 40 years getting to know lumbermen all over the world, buying English walnut and oak planted during the reforestation directed by Elizabeth I, Carpathian elm from Turkey's border with Russia, American black walnut from New Jersey, teak, laurel and rosewood from India. He buys hundreds of logs a year

and ships most of them to a band-saw mill in Maryland to be cut into planks. He likes to be there for the cutting, this ageless Druid, standing hands-in-pockets near the sawyer.

The huge log is maneuvered onto the saw carriage, gripped by heavy dogs, while Nakashima quickly figures where to cut and how thick. As with a diamond, the first cut commits you, success or firewood. He explains this to me in the gloom of his lumber shed, surrounded by monolithic planks standing on end. We are at the end of a long day of interviewing, in which he has stipulated an emphasis on his ideas and broad experience, not on technique. But now that we have finished the formalities, he loosens up and starts to tell how. He has been polite and controlled, and suddenly he is animated. He produces chalk to scribble the end view of a log on the face of a walnut plank, with the dogs that hold it top and bottom to

the traveling saw carriage. "You have to know how to cut and how thick to cut, and you have to decide very fast," he says. He can usually tell what the color and figure will be like before the log opens, he says, but there are always surprises. "You cut one way and you get something, you cut another way and you get entirely something else. You can lose a whole log by wrong cutting. Terribly hard-ball business, saws screaming like a hundred banshees all the time."

The planks near the heart, perfect material if you know how to season it, revealing the complete history of the tree, are Nakashima's specialty. He described the mature tree as being with a soul, "absolutely godlike" and in many ways preferable to people: It has no insatiable ego, it does not talk back. But he cannot pause to admire these magnificent planks, for the saw cuts beyond the heart, and the log drops on its face in the noise and flying dust, to be turned, dogged and sawn some more. "Nothing easy, no place for students," Nakashima chuckles. He's already told me that the planks will be stickered outdoors to dry for two or three years, then gently kiln-dried without steam to set the fibers so the wood

can be worked, then brought here to New Hope, Pa.

The brief moment passes, he puts the chalk away. We just look at the hundreds upon hundreds of colossal planks leaning against the walls of this concrete block shed. I feel like a dwarf huddling in the forest, in the filtered light of late afternoon. Over there are planks five hundred years old and more, five feet from bark to bark, some burly, some branching, some blasted, and their length is twelve or sixteen feet, I cannot estimate. I am astounded. Two more sheds adjoin this one, and he has a warehouse of timber in Philadelphia, yet Nakashima is worrying about the supply five and ten years hence. Suddenly I realize the truth of what he has been telling me all day: Nakashima really believes there is one perfect use for each fitch of timber, and his task—his duty—is to recognize it.

Bucks County, Pennsylvania, an hour's drive north of Philadelphia, has been a center of fine cabinetmaking since Colonial days, and it still is. The land is hilly hardwood forest and brush, cut by farms running down to the Delaware River.



The Conoid Studio, inside and out, and some of the wood standing around the walls. The arching roof is a thin, undulating shell of reinforced concrete, which flattens out to a line at the rear of the structure. The building mostly serves as a showroom and as Nakashima's private office and studio. The raised platform at the right of the interior view is equipped for the traditional Japanese tea ceremony.



If one has skills...

FWW: What do you say to a young person who wants to become a woodworker?

Nakashima: "That happens so often, we have a waiting list of maybe 300, and I say to them we aren't taking on anybody. . . . It cost me maybe \$500 a month to break in a new man, I'm out of pocket that, and then if he goes in two years I'm out maybe five or ten thousand dollars, and very often he doesn't even say thank you. I'm not in that kind of position, so I tell them the thing to do is go to some craft school like Rhode Island, or the best is to go to Germany or Japan where they have real apprenticeship programs, and several people have taken me up on that. . . . There's so many of the young wanting to do that, but it's almost all completely romantic, they have no idea of what is involved, what they're getting into and actually what they want. . . . Skills are maybe the finest resources any nation can have, and we don't have that in this country and that's why things are getting so bad. This country prides itself on automobiles and can't even make a decent automobile, a sad situation. Whereas if one has skills, one could make the slums bloom with no money at all, simply by work and skills."

Nakashima lives on Aquetong Road off U.S. 32, a couple of miles from the fashionable town of New Hope. You can visit on any Saturday afternoon from one o'clock to four-thirty except in August. Nobody will be working in the shops, but you can get the lay of the place and go into the Conoid Studio, Nakashima's showroom and office. It contains examples of the 75 or so catalog items made here: tables large and small, chairs for dining, rocking and lounging, benches and stools, cabinets, beds, desks and lamps. Dozens of planks stand around the walls, destined to become single-board or bookmatched dining tables, although some have been there for years, awaiting their perfect use. The basement is another storehouse, this one filled with smaller treasures: the burls and stump sections of trees from all over the world, which will become coffee and end tables. Special tables are Nakashima's specialty, and if you want one he will help you select the plank and chalk your name on it. His catalog puts it this way: "Lumber with the most interest sometimes poses the most difficult problems, and so often the best figuring is accompanied by knots, areas of worm holes, deep openings, cracks, checks and other so-called defects. . . Just short of being worthless, a board often has the most potential and can be almost human in that respect." One of the cabinetmakers working here put it more plainly: "The more knots and holes, the more money."

* * *

George Nakashima was born in Spokane, Wash., in 1905. He spent the summers of his youth wandering in the mountains of the Pacific Northwest and believes his passion for building and preserving nature's riches began then. He studied forestry, went to MIT for a degree in architecture, then he traveled: to Paris at the time of Le Corbusier and the Bauhaus ("outlived its usefulness by 1940, no vitality to it, yet it influences designers even today. . . absurd"), to Japan to trace

his own roots (where some of his furniture is in production and quite popular), to India to work as an architect, and then to live in an ashram as a disciple of Sri Aurobindo. Then, with World War II imminent, back home. By then he had learned something of the traditional ways of working stone and wood in Asia. The contrast with American building methods produced a resolve "to get into something I could handle from beginning to end," and he set up as a cabinet-maker in Seattle, working alone.

Then Pearl Harbor. Nakashima, along with his wife and infant daughter, was sent to an internment camp in Idaho. The time was not entirely lost. There was wood, "and a very fine Japanese carpenter, so I became his designer and his apprentice at the same time." Influential friends got Nakashima out the following year and helped him set up to make furniture in a rented shed in Bucks County. By 1946 he owned the three acres where his ten buildings now stand.

Somehow, between 1945 and 1955, Nakashima grew from a one-man shop to his present enterprise, which he considers just the right size. It is difficult, from this distance, to figure out exactly how he did it. He does not advertise and does not seem to seek publicity, although he has a gift for getting it. Hundreds of magazine and newspaper articles have been written about him—they fill several fat ring binders—and at least one doctoral thesis. He won a gold medal for craftsmanship from the American Institute of Architects in 1952, put a line of furniture into production with Widdicomb in 1958, and shared (with four other contemporary woodworkers) a prestigious exhibition at the Smithsonian Institution in 1972. Yet his marketing methods contradict all conventional wisdom. There is only one price—no wholesale, retail or decorator's discount. He does not sell through galleries—you have to write or come to New Hope to order, and many customers return, six months later, to pick up their furniture.

The prices are reasonable compared to the usual run of art furniture and high-style factory goods; Nakashima calls them "upper middle bracket." He posted an increase of 5% to 10% last June, after two years without change. "What happened was we had this Rockefeller job (about 200 pieces for a new, Japanese-style house in Pocantico Hills) and were doing well. Everything was kind of top of my line, you know. . . but then we were back to our normal business, our overhead had gone up and our prices hadn't kept up with it."

At the low end, a three-legged Wohl table, measuring about 26 in. by 20 in. by 21 in. high, is \$75 if the top is glued up of several boards and \$115 if it is a one-piece free-edge top. Special coffee and end tables, on the other hand, are priced according to the wood and seem to run toward \$500. A Conoid dining table, measuring about 84 in. by 40 in., with a two-board bookmatched top, would cost about \$1,300. A New chair costs \$165, and \$220 with arms; a Conoid chair is \$220, and \$315 with a one-piece seat cut from figured stump or crotch wood.

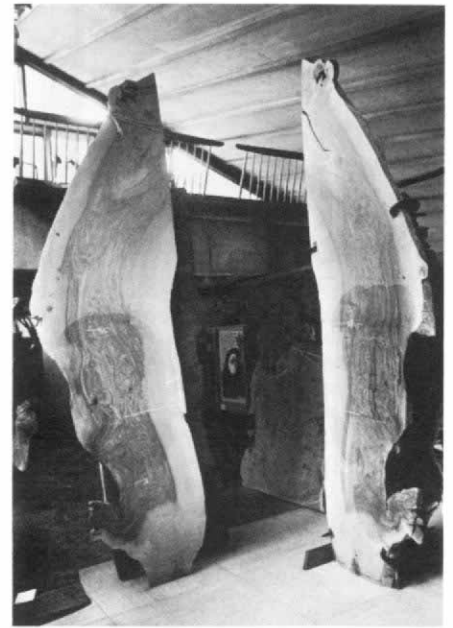
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Nakashima frequently says his two years (1937-1939) as a disciple of Aurobindo "is actually the key to my madness. . . . Unless I had started out in the ashram, I wouldn't be doing what I am today. As a matter of fact, I think the only salvation the West has, the only salvation for the world, is the teachings of Sri Aurobindo."

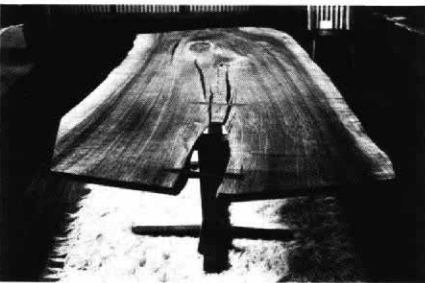
I ask him several times to explain the connection between Indian philosophy, his own goals and making tables. He is



The Minguren Museum, where Nakashima displays premium slabs of world timbers, most of his original prototypes and treasured artifacts. The roof is another architectural adventure, taking its form from a hyperbolic paraboloid.



Book-matched Indian laurel slabs, the best from 30 logs. They'd make a table 12 ft. by 6 ft., if the right customer came along.



Single-board Conoid table, about 3 ft. by 7 ft., walnut. Nakashima said this table was made for a musician. 'We shipped it to him and he said it didn't look right in his room, so he wanted to send it back and do something else. I said fine and made him another table which wasn't nearly as nice, but it pleased him. And now we have the table and wouldn't sell it for plenty of things. You know we often do that sort of thing—make total losses to our advantage. We've even sold a piece of furniture to people who, I've felt later, didn't appreciate it, so we buy it back.'



The butterfly key, used to edge-join two planks and to control actual or potential checks, has been known since Egyptian times. In Nakashima's shop, the butterfly tapers about 5°, and about 1° in thickness. The bottom of the key, which is thus a hair smaller than the top, is scribed onto the wood. The recess is cut with an electric router about $\frac{3}{4}$ of the way through the board, and cleaned up with a sharp chisel. Then the key is glued and forced into place, with a single screw driven into each end from below for insurance. It's made about $\frac{1}{16}$ in. proud of the surface, so it can be finished flush after the glue has set.



Above, some prototype chairs in the Minguren Museum. Center, a page of coffee and end tables from Nakashima's catalog. Right, Roger Foster wipes the tung oil off a free-edge maple table. The usual finish is five coats of tung oil, each soaked on and allowed to set for an hour, then wiped off hard. The final coat is sanded with 280-grit and polished with steel wool. Compressed air is used to blow excess oil out of crevices in the wood. Working surfaces sometimes get a thin top-coat of polyurethane.



obliging, willing to approach the question from several directions, although it is clearly all but impossible to explain:

"It's the concept that's important to me, that's basic. It's one's relationship to divine sources and to nature which formulates, I think, a form. It was the concepts of the Shakers that produced Shaker furniture, it was the concept and the life of Louis XIV that produced the kind of furniture he ended up with... I'm a karma yogin from way back, karma yoga is the yoga of action. I am an activist, in my small way I get things done... I've improved my environment and improved my life and I've done things for people that improved their lives, and created an environment out of nothing. I don't destroy anything. I don't even borrow any money. I think as long as you're creating there's a legitimacy. I think the object of life is to create. I don't hurt anybody. I don't take anything from anybody, I just try to leave the world a better place than I found it. I am essentially a follower of Sri Aurobindo, who believes in the transformation of man, and also in the transformation of society, the transformation of nations and of civilization."

Today Nakashima is more businessman than woodworker, although he says he still occasionally builds a piece of furniture, just to keep his hand in. He operates his enterprise in a very traditional way, the master craftsman overseeing a squad of ten journeymen who build furniture to order, one piece at a time. His wife, Marian, manages the finances. His daughter, Mira, 37, shares (and probably will inherit) the customer relations, the design work, and shop coordination. His son Kevin, 24, is learning the business side.

The heart of the business is procuring timber and deciding exactly what to do with each plank, or exactly which plank to use for some particular job. This aspect Nakashima cannot relinquish, although he says he is passing on responsibility as quickly as possible. "There was a time when I'd have to find every board, every piece of wood that went into a chair frame. But now we have a catalog and I tell them to go to such and such a bin and pick it out. Even so, we're cutting seats right now and I work very closely with the men in cutting seats, to decide which board goes into a chair seat and which board goes into something else."

It has to be a perfect edge...

Nakashima on tools and workmanship:

"You know it takes two years to learn how to sharpen a chisel properly, and even now after 30 years I don't think I have a man in the shop who can sharpen a chisel properly. We have a power grinder, and a lot of the men use it even on a good chisel, which is just absolute barbarism. Our good men. I don't try to make them do it my way, they do get a good edge on it, but they could get a better edge if they knew how to use a stone properly. First of all, an oilstone is no good, it has no quality, it doesn't have the feel that a good waterstone has... Most people use only the center of the stone, and then they get the belly, they don't know how to go from one end to the other without bellying the stone..."

"Most of the men like to use a Japanese saw that cuts on the pull stroke, but I think there's only one of them who can sharpen it. Most just keep using it until the teeth give out. You have to have a special file. A Japanese saw has a gullet besides the teeth, you have to gullet. Good Japanese carpenters, I've seen them, if the saw starts to go bad they take the teeth completely off and put the teeth all back in. That takes tremendous skill..."

"These things aren't that easy, you know. For a good piece of Japanese architecture, very fine work, a carpenter could spend a day surfacing one post, for instance. You take one stroke of a plane—and it has to be a hand plane, and has to be wood, can't be a metal plane—the plane is pulled, and then after each stroke you sharpen the blade. It's not that it's dull, but it can be sharper. It has to be a perfect edge, there can't be the slightest feather to it..."

As the day proceeds, our interview is interrupted several times by a cabinetmaker with a question. Each time, it concerns what board to use, or where to find the right plank among the thousands on hand.

Nakashima has it all at his fingertips, although he admits, grinning, that he sometimes tucks a special piece of wood away and loses it for years. After that, his job is design, particularly of the single-board and bookmatched dining tables, and of the special coffee tables. He cuts and trims the planks with his white chalk, locates the butterfly keys that will control checking, specifies the base and its proportions and where it will attach.

Some of the buildings at Nakashima's embody his experiments in thin-shelled reinforced concrete construction, while others are more conventional. But they are all unobtrusive, wood and masonry of human scale, integrated with the land. They have large doors and windows, wooden decks, with gravel paths and stepping stones, and the trees are close by.

The main workshops are several small buildings connected inside, an L-shaped agglomeration with the largest room, for machines, at the knee of the L, cabinet shop to one side, table shop and finishing rooms to the other. Patterns and tools hang on hooks over cluttered benches; slabs, boards and off-cuts too big to discard stand wherever there is room; here a rack of clamps and there a shelf of portable power tools, the cords neatly coiled. All the sawhorses are wrapped in corrugated cardboard to cushion the work. A small blackboard on the back of the door lists jobs in progress and their due dates. The wooden floors, although swept daily, are littered with shavings and sawdust. In short, the place is a busy cabinet shop, cluttered yet orderly, and comfortable.

The ten men who work here are all of two types: European-trained craftsmen and Nakashima-trained local men. None are art-school graduates, and none of the hundreds who write to Nakashima seeking apprenticeships are ever taken on. Most of the men have been here 15 or 20 years, or seem as if they will be.

Adam Martini, who came here from Austria 20 years ago and mostly makes chairs and lamps, explained why he stays: "He leaves you alone, you do the best work you can with the best material in the world, there's no pressure and there's always work." Jim Radcliffe, who grew up in New Hope and has worked for Nakashima for 24 years, added, "It's not like being in a factory, there's no assembly line. You work at your own pace, and each piece is a challenge because the wood is different. Each table with a one-piece top—there's no other like it. I figure I've made 2,000 Conoid bases for one-board tables over the years, and that's a lot. But the proportions change to suit the wood, each one is different."

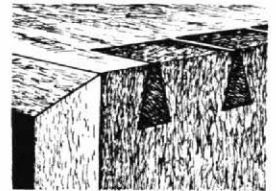
The men have specialties they pursue when the order flow allows it. If there are coffee tables to be made, Gene Morgan makes them; if Kornblut cases, Bob Lovett makes them. But no one has a specialty that only he can do, and any of them will do whatever needs doing at the moment. Generally, a man makes each whole piece of furniture himself and is responsible for it. The principal concession to production methods is stockpiling of chair seats and spindles (the rough-turning and bandsawing is jobbed out to local millwork shops) and of the linear elements that make up table bases. Joints cannot be cut in advance, because the exact dimensions are likely to differ each time a piece is made, according to the



Each order comes into the shop as a dimensional sketch noting any variations from the catalog design. This one is for a Kornblut case, named after the customer for whom it was first designed. A Kornblut is 18 in. by 18 in. by 22 in. high, in walnut with rosewood doors, back and base, and costs \$440 or \$580, depending on whether the walnut is American, French or Persian. The gauge, top, is used when planing tapered legs.



Machine room, top, has three table saws, two thickness planers (one 32 in. wide) and two jointers (one 24 in. wide), two bandsaws, a lathe, a drum sander and a stroke sander. In the ad-joining bench room, above, is a rosewood carcass (foreground) that will become a horizontal wall-mounted cabinet with sliding doors, a special commission. The corner joint is a through dovetail (inset) with mitered ends, an attractive detail that also hides the through-plowed door grooves. The usual shop practice is to cut the tail angles first, using a tilt-arbor saw, rout the waste almost to the line and finish with chisels. Then the pins are scribed and cut with a fine Japanese saw. The miters are left a little fat, the joint is closed as far as it will go, and the saw is run through the miter to create a perfect fit.





New chair with rockers, top, is a Windsor derivative with H-stretchers, made in walnut or cherry with hickory back spindles. The back rest is steam-bent from green stock, then dried for about six months. Chairmaker Adam Martini, center, stores all the spindles for a set of chairs over a heat lamp to dry and shrink the wood before he whittles the tenons. After assembly with white glue, Martini pins the leg and stretcher tenons with small diagonal dowels, to keep the joint together should it ever loosen. Of the Conoid chair, bottom right, Nakashima says, "I started this chair because I felt you only needed two legs, then I put the base on it because it had to be supported and it seemed to work out because so many homes are carpeted. Legs on a carpet floor are a bad solution, you can't move the chair, whereas this one will slide on the carpet."

wood and the client's specifications. Thus when an order for six New chairs is to be filled, Martini makes exactly six chairs. When he's shaved and fitted the legs and stretchers to the first seat, he sits on it to shave the spindles for the back. Nakashima usually doesn't dictate how the work is to be done, only to what standard. If it doesn't come out right, it will be done over again.

Of the several trends in contemporary design with wood, two are at opposite poles: stacked furniture, where the wood is a beautiful and convenient medium for expressing a sculptural idea, and furniture such as Nakashima's, where the whole point is to let the wood itself dictate the form. Nakashima is most forceful when he inveighs against design as it is usually thought of, the expression of a personal idea, "where you start with a concept and then you try to execute it in almost any material. Most of it would be much better in plastic or concrete. . .and it shouldn't be done with wood, it's the wrong use of wood." He thumbs a book of photographs and says, "Fast modern contemporary furniture, I want no part of it. People wanting to express themselves, it's just simply crap. That's what's causing all the ills of our society, individualism with nothing to express. You tear your guts out to express yourself and it ends up in frustration and a terrible environment." I push him on this and he explains that the wood is a product of nature, of something beyond man, "a gift we should treasure and use in the most logical and beautiful way, and personal expression is quite illegitimate. It's an arrogant conceit, and we have too much conceit in our society."

Looking at a small table salvaged from a madly extravagant and extremely fragile burl (shown on p. 40), I see what he means: The wood is merely displayed, utterly simple. It is as if the tree had given away a part of itself and there it sits, without human intervention. We know that someone has sliced the stump into boards and saved this ruined piece from the firewood pile, cleaned it up and defined its edges, and given it a true, oiled surface. But this work does not intrude, there is no precious molding or delicate dovetail to announce the craftsman's ego. The tabletop seems to have evolved directly from the material, and as Nakashima says, it is probably the only thing that could have been done with such a piece of wood. Nonetheless, something is holding it off the ground, a base tucked well back and unobtrusive. It's not a gnarly branch or root section (which Nakashima calls "gauche barbarisms"), it's a designed intersection of vertical slab and horizontal runner. I ask how this base evolved from the material and Nakashima explains that it is "almost purely an engineering job, it's just to support the top and to do it in a way that's satisfying to me. I don't mean that I'm beyond design, but I don't design from the approach of art school, I design from the material."

FWW: Are you working from a tradition, are you consciously part of a tradition?

Nakashima: Well, if I'm in a tradition it's a mixture of early American and Japanese. I think I work very much in the Japanese idiom, the use of materials, the type of materials, but what we do also has roots in America.

FWW: You imply that aside from being a skilled craftsman and aside from knowing the material intimately and being able to design with it, there's another dimension here.

Nakashima: Yeah, it's a spiritual one, and I think it actually comes first. . .