

cally. At that point the goal of studying is no longer to make the grade, earn a diploma, and find a good job. Rather, it is to understand what is happening around one, to develop a personally meaningful sense of what one's experience is all about. From that will come the profound joy of the thinker, like that experienced by the disciples of Socrates that Plato describes in *Philebus*: "The young man who has drunk for the first time from that spring is as happy as if he had found a treasure of wisdom; he is positively enraptured. He will pick up any discourse, draw all its ideas together to make them into one, then take them apart and pull them to pieces. He will puzzle first himself, then also others, badger whoever comes near him, young and old, sparing not even his parents, nor anyone who is willing to listen. . . ."

The quotation is about twenty-four centuries old, but a contemporary observer could not describe more vividly what happens when a person first discovers the flow of the mind.

WORK AS FLOW

LIKE OTHER ANIMALS, we must spend a large part of our existence making a living: calories needed to fuel the body don't appear magically on the table, and houses and cars don't assemble themselves spontaneously. There are no strict formulas, however, for how much time people actually have to work. It seems, for instance, that the early hunter-gatherers, like their present-day descendants living in the inhospitable deserts of Africa and Australia, spent only three to five hours each day on what we would call working—providing for food, shelter, clothing, and tools. They spent the rest of the day in conversation, resting, or dancing. At the opposite extreme were the industrial workers of the nineteenth century, who were often forced to spend twelve-hour days, six days a week, toiling in grim factories or dangerous mines.

Not only the quantity of work, but its quality has been highly variable. There is an old Italian saying: "*Il lavoro nobilita l'uomo, e lo rende simile alle bestie*"; or, "Work gives man nobility, and turns him into an animal." This ironic trope may be a comment on the nature of all work, but it can also be interpreted to mean that work requiring great skills and that is done freely refines the complexity of the self; and, on the other hand, that there are few things as entropic as unskilled work done under compulsion. The brain surgeon operating in a shining hospital and the slave laborer who staggers under a heavy load as he wades through the mud are both working. But the surgeon has a chance to

learn new things every day, and every day he learns that he is in control and that he can perform difficult tasks. The laborer is forced to repeat the same exhausting motions, and what he learns is mostly about his own helplessness.

Because work is so universal, yet so varied, it makes a tremendous difference to one's overall contentment whether what one does for a living is enjoyable or not. Thomas Carlyle was not far wrong when he wrote, "Blessed is he who has found his work; let him ask no other blessedness." Sigmund Freud amplified somewhat on this simple advice. When asked for his recipe for happiness, he gave a very short but sensible answer: "Work and love." It is true that if one finds flow in work, and in relations with other people, one is well on the way toward improving the quality of life as a whole. In this chapter we shall explore how jobs can provide flow, and in the following one we shall take up Freud's other main theme—enjoying the company of others.

AUTOTELIC WORKERS

As punishment for his ambition, Adam was sentenced by the Lord to work the earth with the sweat of his brow. The passage of Genesis (3:17) that relates this event reflects the way most cultures, and especially those that have reached the complexity of "civilization," conceive of work—as a curse to be avoided at all costs. It is true that, because of the inefficient way the universe operates, it requires a lot of energy to realize our basic needs and aspirations. As long as we didn't care how much we ate, whether or not we lived in solid and well-decorated homes, or whether we could afford the latest fruits of technology, the necessity of working would rest lightly on our shoulders, as it does for the nomads of the Kalahari desert. But the more psychic energy we invest in material goals, and the more improbable the goals grow to be, the more difficult it becomes to make them come true. Then we need increasingly high inputs of labor, mental and physical, as well as inputs of natural resources, to satisfy escalating expectations. For much of history, the great majority of people who lived at the periphery of "civilized" societies had to give up any hope of enjoying life in order to make the dreams of the few who had found a way of exploiting them come true. The achievements that set civilized nations apart from the more primitive—such as the Pyramids, the Great Wall of China, the Taj Mahal, and the temples, palaces, and dams of antiquity—were usually built with the energy of slaves forced to realize their rulers' ambitions. Not surprisingly, work acquired a rather poor reputation.

With all due respect to the Bible, however, it does not seem to be true that work necessarily needs to be unpleasant. It may always have to be hard, or at least harder than doing nothing at all. But there is ample evidence that work can be enjoyable, and that indeed, it is often the most enjoyable part of life.

Occasionally cultures evolve in such a way as to make everyday productive chores as close to flow activities as possible. There are groups in which both work and family life are challenging yet harmoniously integrated. In the high mountain valleys of Europe, in Alpine villages spared by the Industrial Revolution, communities of this type still exist. Curious to see how work is experienced in a "traditional" setting representative of farming life-styles that were prevalent everywhere up to a few generations ago, a team of Italian psychologists led by Professor Fausto Massimini and Dr. Antonella Delle Fave recently interviewed some of their inhabitants, and have generously shared their exhaustive transcripts.

The most striking feature of such places is that those who live there can seldom distinguish work from free time. It could be said that they work sixteen hours a day each day, but then it could also be argued that they never work. One of the inhabitants, Serafina Vinon, a seventy-six-year-old woman from the tiny hamlet of Pont Trentaz, in the Val d'Aosta region of the Italian Alps, still gets up at five in the morning to milk her cows. Afterward she cooks a huge breakfast, cleans the house, and, depending on the weather and time of year, either takes the herd to the meadows just below the glaciers, tends the orchard, or cards some wool. In summer she spends weeks on the high pastures cutting hay, and then carries huge bales of it on her head the several miles down to the barn. She could reach the barn in half the time if she took a direct route; but she prefers following invisible winding trails to save the slopes from erosion. In the evening she may read, or tell stories to her grandchildren, or play the accordion for one of the parties of friends and relatives that assemble at her house a few times a week.

Serafina knows every tree, every boulder, every feature of the mountains as if they were old friends. Family legends going back many centuries are linked to the landscape: On this old stone bridge, when the plague of 1473 had exhausted itself, one night the last surviving woman of Serafina's village, with a torch in her hand, met the last surviving man of the village further down the valley. They helped each other, got married, and became the ancestors of her family. It was in that field of raspberries that her grandmother was lost when she was a little girl. On this rock, standing with a pitchfork in his hand, the Devil

threatened Uncle Andrew during the freak snowstorm of '24.

When Serafina was asked what she enjoys doing most in life, she had no trouble answering: milking the cows, taking them to the pasture, pruning the orchard, carding wool . . . in effect, what she enjoys most is what she has been doing for a living all along. In her own words: "It gives me a great satisfaction. To be outdoors, to talk with people, to be with my animals . . . I talk to everybody—plants, birds, flowers, and animals. Everything in nature keeps you company; you see nature progress every day. You feel clean and happy; too bad that you get tired and have to go home . . . even when you have to work a lot it is very beautiful."

When she was asked what she would do if she had all the time and money in the world, Serafina laughed—and repeated the same list of activities: she would milk the cows, take them to pasture, tend the orchard, card wool. It is not that Serafina is ignorant of the alternatives offered by urban life: she watches television occasionally and reads newsmagazines, and many of her younger relatives live in large cities and have comfortable life-styles, with cars, appliances, and exotic vacations. But their more fashionable and modern way of life does not attract Serafina; she is perfectly content and serene with the role she plays in the universe.

Ten of the oldest residents of Pont Trentaz, ranging from sixty-six to eighty-two years of age, were interviewed; all of them gave responses similar to Serafina's. None of them drew a sharp distinction between work and free time, all mentioned work as the major source of optimal experiences, and none would want to work less if given a chance.

Most of their children, who were also interviewed, expressed the same attitude toward life. However, among the grandchildren (aged between twenty and thirty-three years), more typical attitudes toward work prevailed: given a chance they would have worked less, and spent more time instead in leisure—reading, sports, traveling, seeing the latest shows. Partly this difference between the generations is a matter of age; young people are usually less contented with their lot, more eager for change, and more intolerant of the constraints of routine. But in this case the divergence also reflects the erosion of a traditional way of life, in which work was meaningfully related to people's identities and to their ultimate goals. Some of the young people of Pont Trentaz might in their old age come to feel about their work as Serafina does; probably the majority will not. Instead, they will keep widening the gap between jobs that are necessary but unpleasant, and leisure pursuits that are enjoyable but have little complexity.

Life in this Alpine village has never been easy. To survive from day to day each person had to master a very broad range of difficult challenges ranging from plain hard work, to skillful crafts, to the preservation, and elaboration of a distinctive language, of songs, of artworks, of complex traditions. Yet somehow the culture has evolved in such a way that the people living in it find these tasks enjoyable. Instead of feeling oppressed by the necessity to work hard, they share the opinion of Giuliana B., a seventy-four-year-old lady: "I am free, free in my work, because I do whatever I want. If I don't do something today I will do it tomorrow. I don't have a boss, I am the boss of my own life. I have kept my freedom and I have fought for my freedom."

Certainly, not all preindustrial cultures were this idyllic. In many hunting or farming societies life was harsh, brutish, and short. In fact, some of the Alpine communities not far from Pont Trentaz were described by foreign travelers of the last century as riddled with hunger, disease, and ignorance. To perfect a life-style capable of balancing harmoniously human goals with the resources of the environment is as rare a feat as building one of the great cathedrals that fill visitors with awe. We can't generalize from one successful example to all preindustrial cultures. But by the same token even one exception is sufficient to disprove the notion that work must always be less enjoyable than freely chosen leisure.

But what about the case of an urban laborer, whose work is not so clearly tied to his subsistence? Serafina's attitude, as it happens, is not unique to traditional farming villages. We can occasionally find it around us in the midst of the turmoils of the industrial age. A good example is the case of Joe Kramer, a man we interviewed in one of our early studies of the flow experience. Joe was in his early sixties, a welder in a South Chicago plant where railroad cars are assembled. About two hundred people worked with Joe in three huge, dark, hangarlike structures where steel plates weighing several tons move around suspended from overhead tracks, and are welded amid showers of sparks to the wheelbases of freight cars. In summer it is an oven, in winter the icy winds of the prairie howl through. The clanging of metal is always so intense that one must shout into a person's ear to make oneself understood.

Joe came to the United States when he was five years old, and he left school after fourth grade. He had been working at this plant for over thirty years, but never wanted to become a foreman. He declined several promotions, claiming that he liked being a simple welder, and felt uncomfortable being anyone's boss. Although he stood on the lowest rung

of the hierarchy in the plant, everyone knew Joe, and everyone agreed that he was the most important person in the entire factory. The manager stated that if he had five more people like Joe, his plant would be the most efficient in the business. His fellow workers said that without Joe they might as well shut down the shop right now.

The reason for his fame was simple: Joe had apparently mastered every phase of the plant's operation, and he was now able to take anyone's place if the necessity arose. Moreover, he could fix any broken-down piece of machinery, ranging from huge mechanical cranes to tiny electronic monitors. But what astounded people most was that Joe not only could perform these tasks, but actually enjoyed it when he was called upon to do them. When asked how he had learned to deal with complex engines and instruments without having had any formal training, Joe gave a very disarming answer. Since childhood he had been fascinated with machinery of every kind. He was especially drawn to anything that wasn't working properly: "Like when my mother's toaster went on the fritz, I asked myself: 'If I were that toaster and I didn't work, what would be wrong with me?'" Then he disassembled the toaster, found the defect, and fixed it. Ever since, he has used this method of empathic identification to learn about and restore increasingly complex mechanical systems. And the fascination of discovery has never left him; now close to retirement, Joe still enjoys work every day.

Joe has never been a workaholic, completely dependent on the challenges of the factory to feel good about himself. What he did at home was perhaps even more remarkable than his transformation of a mindless, routine job into a complex, flow-producing activity. Joe and his wife live in a modest bungalow on the outskirts of the city. Over the years they bought up the two vacant lots on either side of their house. On these lots Joe built an intricate rock garden, with terraces, paths, and several hundred flowers and shrubs. While he was installing underground sprinklers, Joe had an idea: What if he had them make rainbows? He looked for sprinkler heads that would produce a fine enough mist for this purpose, but none satisfied him; so he designed one himself, and built it on his basement lathe. Now after work he could sit on the back porch, and by touching one switch he could activate a dozen sprays that turned into as many small rainbows.

But there was one problem with Joe's little Garden of Eden. Since he worked most days, by the time he got home the sun was usually too far down the horizon to help paint the water with strong colors. So Joe went back to the drawing board, and came back with an admirable solution. He found floodlights that contained enough of the sun's spec-

trum to form rainbows, and installed them inconspicuously around the sprinklers. Now he was really ready. Even in the middle of the night, just by touching two switches, he could surround his house with fans of water, light, and color.

Joe is a rare example of what it means to have an "autotelic personality," or the ability to create flow experiences even in the most barren environment—an almost inhumane workplace, a weed-infested urban neighborhood. In the entire railroad plant, Joe appeared to be the only man who had the vision to perceive challenging opportunities for action.⁴ The rest of the welders we interviewed regarded their jobs as burdens to be escaped as promptly as possible, and each evening as soon as work stopped they fanned out for the saloons that were strategically placed on every third corner of the grid of streets surrounding the factory, there to forget the dullness of the day with beer and camaraderie. Then home for more beer in front of the TV, a brief skirmish with the wife, and the day—in all respects similar to each previous one—was over.

One might argue here that endorsing Joe's life-style over that of his fellow workers is reprehensibly "elitist." After all, the guys in the saloon are having a good time, and who is to say that grubbing away in the backyard making rainbows is a better way to spend one's time? By the tenets of cultural relativism the criticism would be justifiable, of course. But when one understands that enjoyment depends on increasing complexity, it is no longer possible to take such radical relativism seriously. The quality of experience of people who play with and transform the opportunities in their surroundings, as Joe did, is clearly more developed as well as more enjoyable than that of people who resign themselves to live within the constraints of the barren reality they feel they cannot alter.

The view that work undertaken as a flow activity is the best way to fulfill human potentialities has been proposed often enough in the past, by various religious and philosophical systems. To people imbued with the Christian worldview of the Middle Ages it made sense to say that peeling potatoes was just as important as building a cathedral, provided they were both done for the greater glory of God. For Karl Marx, men and women constructed their being through productive activities; there is no "human nature," he held, except that which we create through work. Work not only transforms the environment by building bridges across rivers and cultivating barren plains; it also transforms the worker from an animal guided by instincts into a conscious, goal-directed, skillful person.

One of the most interesting examples of how the phenomenon of flow appeared to thinkers of earlier times is the concept of *Yu* referred to about 2,300 years ago in the writings of the Taoist scholar Chuang Tzu. *Yu* is a synonym for the right way of following the path, or *Tao*: it has been translated into English as "wandering"; as "walking without touching the ground"; or as "swimming," "flying," and "flowing." Chuang Tzu believed that to *Yu* was the proper way to live—without concern for external rewards, spontaneously, with total commitment—in short, as a total autotelic experience.

As an example of how to live by *Yu*—or how to flow—Chuang Tzu presents, in the Inner Chapters of the work which has come down to us bearing his name, a parable of a humble worker. This character is Ting, a cook whose task was to butcher the meat at the court of Lord Hui of Wei. Schoolchildren in Hong Kong and Taiwan still have to memorize Chuang Tzu's description: "Ting was cutting up an ox for Lord Wen-hui. At every touch of his hand, every heave of his shoulder, every move of his feet, every thrust of his knee—zip! zoop! He slithered the knife along with a zing, and all was in perfect rhythm, as though he were performing the dance of the Mulberry Grove or keeping time to the Ching-shou music."

Lord Wen-hui was fascinated by how much flow (or *Yu*) his cook found in his work, and so he complimented Ting on his great skill. But Ting denied that it was a matter of skill: "What I care about is the *Way*, which goes beyond skill." Then he described how he had achieved his superb performance: a sort of mystical, intuitive understanding of the anatomy of the ox, which allowed him to slice it to pieces with what appeared to be automatic ease: "Perception and understanding have come to a stop and spirit moves where it wants."

Ting's explanation may seem to imply that *Yu* and flow are the result of different kinds of processes. In fact, some critics have emphasized the differences: while flow is the result of a conscious attempt to master challenges, *Yu* occurs when the individual gives up conscious mastery. In this sense they see flow as an example of the "Western" search for optimal experience, which according to them is based on changing objective conditions (e.g., by confronting challenges with skills), whereas *Yu* is an example of the "Eastern" approach, which disregards objective conditions entirely in favor of spiritual playfulness and the transcendence of actuality.

But how is a person to achieve this transcendental experience and spiritual playfulness? In the same parable, Chuang Tzu offers a valuable

insight to answer this question, an insight that has given rise to diametrically opposite interpretations. In Watson's translation, it reads as follows: "However, whenever I come to a complicated place, I size up the difficulties, tell myself to watch out and be careful, keep my eyes on what I'm doing, work very slowly, and move my knife with the greatest of subtlety, until—flop! the whole thing comes apart like a clod of earth crumbling to the ground. I stand there holding the knife and look all around me, completely satisfied and reluctant to move on, and then I wipe off the knife and put it away."

Now some earlier scholars have taken this passage to refer to the working methods of a mediocre carver who does not know how to *Yu*. More recent ones such as Watson and Graham believe that it refers to Ting's own working methods. Based on my knowledge of the flow experience, I believe the latter reading must be the correct one. It demonstrates, even after all the obvious levels of skill and craft (*chi*) have been mastered, the *Yu* still depends on the discovery of new challenges (the "complicated place" or "difficulties" in the above quotation), and on the development of new skills ("watch out and be careful, keep my eyes on what I'm doing . . . move my knife with the greatest of subtlety").

In other words, the mystical heights of the *Yu* are not attained by some superhuman quantum jump, but simply by the gradual focusing of attention on the opportunities for action in one's environment, which results in a perfection of skills that with time becomes so thoroughly automatic as to seem spontaneous and otherworldly. The performances of a great violinist or a great mathematician seem equally uncanny, even though they can be explained by the incremental honing of challenges and skills. If my interpretation is true, in the flow experience (or *Yu*) East and West meet: in both cultures ecstasy arises from the same sources. Lord Wen-hui's cook is an excellent example of how one can find flow in the most unlikely places, in the most humble jobs of daily life. And it is also remarkable that over twenty-three centuries ago the dynamics of this experience were already so well known.

The old woman who farms in the Alps, the welder in South Chicago, and the mythical cook from ancient China have this in common: their work is hard and unglamorous, and most people would find it boring, repetitive, and meaningless. Yet these individuals transformed the jobs they had to do into complex activities. They did this by recognizing opportunities for action where others did not, by developing skills, by focusing on the activity at hand, and allowing themselves to be lost in the interaction so that their selves could emerge stronger

afterward. Thus transformed, work becomes enjoyable, and as the result of a personal investment of psychic energy, it feels as if it were freely chosen, as well.

AUTOTELIC JOBS

Serafina, Joe, and Ting are examples of people who have developed an autotelic personality. Despite the severe limitations of their environment they were able to change constraints into opportunities for expressing their freedom and creativity. Their method represents one way to enjoy one's job while making it richer. The other is to change the job itself, until its conditions are more conducive to flow, even for people who lack autotelic personalities. The more a job inherently resembles a game—with variety, appropriate and flexible challenges, clear goals, and immediate feedback—the more enjoyable it will be regardless of the worker's level of development.

Hunting, for instance, is a good example of "work" that by its very nature had all the characteristics of flow. For hundreds of thousands of years chasing down game was the main productive activity in which humans were involved. Yet hunting has proven to be so enjoyable that many people are still doing it as a hobby, after all practical need for it has disappeared. The same is true of fishing. The pastoral mode of existence also has some of the freedom and flowlike structure of earliest "work." Many contemporary young Navajos in Arizona claim that following their sheep on horseback over the mesas is the most enjoyable thing they ever do. Compared to hunting or herding, farming is more difficult to enjoy. It is a more settled, more repetitive activity, and the results take much longer to appear. The seeds planted in spring need months to bear fruit. To enjoy agriculture one must play within a much longer time frame than in hunting; while the hunter may choose his quarry and method of attack several times each day, the farmer decides what crops to plant, where, and in what quantity only a few times each year. In order to succeed, the farmer must make lengthy preparations, and endure chancy periods of waiting helplessly for the weather to cooperate. It is not surprising to learn that populations of nomads or hunters, when forced to become farmers, appear to have died out rather than submitting themselves to that ostensibly boring existence. Yet many farmers also eventually learned to enjoy the more subtle opportunities of their occupation.

The crafts and cottage industries that before the eighteenth century occupied most of the time left free from farming were reasonably

well designed in terms of providing flow. English weavers, for example, had their looms at home, and worked with their entire family according to self-imposed schedules. They set their own goals for production, and modified them according to what they thought they could accomplish. If the weather was good, they quit so they could work in the orchard or the vegetable garden. When they felt like it they would sing a few ballads, and when a piece of cloth was finished they all celebrated with a wee drink.

This arrangement still functions in some parts of the world that have been able to maintain a more humane pace of production, despite all the benefits of modernization. For instance, Professor Massimini and his team have interviewed weavers in the province of Biella, in northern Italy, whose pattern of working resembles that of the fabled English weavers of over two centuries ago. Each of these families owns two to ten mechanical looms that can be supervised by a single person. The father may watch the looms early in the morning, then call in his son to take over while he goes looking for mushrooms in the forest or stops by the creek to fish for trout. The son runs the machines until he gets bored, at which point the mother takes over.

In their interviews, every member of the families listed weaving as the most enjoyable activity they did—more than traveling, more than going to discos, more than fishing, and certainly more than watching TV. The reason that working was so much fun is that it was continually challenging. Family members designed their own patterns, and when they had had enough of one kind they would switch to another. Each family decided what type of cloth to weave, where to buy the materials, how much to produce, and where to sell it. Some families had customers as far away as Japan and Australia. Family members were always traveling to manufacturing centers to keep abreast of new technical developments, or to buy necessary equipment as cheaply as possible.

But throughout most of the Western world such cozy arrangements conducive to flow were brutally disrupted by the invention of the first power looms, and the centralized factory system they spawned. By the middle of the eighteenth century family crafts in England were generally unable to compete with mass production. Families were broken up, workers had to leave their cottages and move en masse into ugly and unwholesome plants, rigid schedules lasting from dawn to dusk were enforced. Children as young as seven years of age had to work themselves to exhaustion among indifferent or exploitive strangers. If the enjoyment of work had any credibility before, it was effectively destroyed in that first frenzy of industrialization.

Now we have entered a new, postindustrial age, and work is said to be becoming benign again: the typical laborer now sits in front of a bank of dials, supervising a computer screen in a pleasant control room, while a band of savvy robots down the line do whatever "real" work needs to be done. In fact, most people are not engaged in production any longer; they work in the so-called "service sector," at jobs that would surely appear like pampered leisure to the farmers and factory workers of only a few generations ago. Above them are the managers and professionals, who have great leeway in making whatever they want to of their jobs.

So work can be either brutal and boring, or enjoyable and exciting. In just a few decades, as happened in England in the 1740s, the average working conditions can change from being relatively pleasant to a nightmare. Technological innovations such as the waterwheel, the plow, the steam engine, electricity, or the silicon chip can make a tremendous difference in whether work will be enjoyable or not. Laws regulating the enclosure of the commons, the abolition of slavery, the abolition of apprentices, or the institution of the forty-hour week and of minimum wages can also have a great impact. The sooner we realize that the quality of the work experience can be transformed at will, the sooner we can improve this enormously important dimension of life. Yet most people still believe that work is forever destined to remain "the curse of Adam."

In theory, any job could be changed so as to make it more enjoyable by following the prescriptions of the flow model. At present, however, whether work is enjoyable or not ranks quite low among the concerns of those who have the power to influence the nature of a given job. Management has to care for productivity first and foremost, and union bosses have to keep safety, security, and compensations uppermost in their minds. In the short run these priorities might well conflict with flow-producing conditions. This is regrettable, because if workers really enjoyed their jobs they would not only benefit personally, but sooner or later they would almost certainly produce more efficiently and reach all the other goals that now take precedence.

At the same time, it would be erroneous to expect that if all jobs were constructed like games, everyone would enjoy them. Even the most favorable external conditions do not guarantee that a person will be in flow. Because optimal experience depends on a subjective evaluation of what the possibilities for action are, and of one's own capacities, it happens quite often that an individual will be discontented even with a potentially great job.

Let us take as an example the profession of surgery. Few jobs involve so much responsibility, or bestow so much status on its practitioners. Certainly if challenges and skills are significant factors, then surgeons must find their job exhilarating. And in fact many surgeons say that they are addicted to their work, that nothing else in their lives compares with it in terms of enjoyment, that anything that takes them away from the hospital—a Caribbean vacation, a night at the opera—feels like a waste of time.

But not every surgeon is as enthusiastic about his job. Some grow so bored by it that they take up drinking, gambling, or a fast life-style to forget its drudgery. How can such widely diverging views of the same profession be possible? One reason is that surgeons who settle down for well-paid but repetitive routines soon begin to feel their retdum. There are surgeons who only cut out our appendices, or tonsils; a few even specialize in piercing earlobes. Such specialization can be lucrative, but it makes enjoying the job more difficult. At the other extreme, there are competitive supersurgeons who go off the deep end in the other direction, constantly needing new challenges, wanting to perform spectacular new surgical procedures until they finally can't meet the expectations they have set for themselves. Surgical pioneers burn out for the opposite reason of the routine specialist: they have accomplished the impossible once, but they haven't found a way to do it again.

Those surgeons who enjoy their work usually practice in hospitals that allow variety and a certain amount of experimentation with the latest techniques, and that make research and teaching part of the job. The surgeons who like what they do mention money, prestige, and saving lives as being important to them, but they state that their greatest enthusiasm is for the intrinsic aspects of the job. What makes surgery so special for them is the feeling one gets from the activity itself. And the way they describe that feeling is in almost every detail similar to the flow experiences reported by athletes, artists, or the cook who butchered the meat for the Lord of Wei.

The explanation for this is that surgical operations have all the characteristics that a flow activity should have. Surgeons mention, for instance, how well defined their goals are. An internist deals with problems that are less specific and localized, and a psychiatrist with even more vague and ephemeral symptoms and solutions. By contrast the surgeon's task is crystal-clear: to cut out the tumor, or set the bone, or get some organ pumping away again. Once that task is accomplished he can sew up the incision, and turn to the next patient with the sense of a job well done.

Similarly surgery provides immediate and continuous feedback. If there is no blood in the cavity, the operation is going well; then the diseased tissue comes out, or the bone is set; the stitches take (or not, if that is the case), but throughout the process one knows exactly how successful one is, and if not, why not. For this reason alone, most surgeons believe that what they are doing is so much more enjoyable than any other branch of medicine, or any other job on earth.

At another level, there is no lack of challenges in surgery. In the words of one surgeon: "I get intellectual enjoyment—like the chess player or the academic who studies ancient Mesopotamian toothpicks. . . . The craft is enjoyable, like carpentry is fun. . . . The gratification of taking an extremely difficult problem and making it go." And another: "It's very satisfying and if it is somewhat difficult it is also exciting. It's very nice to make things work again, to put things in their right place so that it looks like it should, and fits neatly. This is very pleasant, particularly when the group works together in a smooth and efficient manner: then the aesthetics of the whole situation can be appreciated."

This second quote indicates that the challenges of an operation are not limited to what the surgeon must do personally, but include coordinating an event that involves a number of additional players. Many surgeons comment on how exhilarating it is to be part of a well-trained team that functions smoothly and efficiently. And of course there is always the possibility of doing things better, of improving one's skills. An eye surgeon commented, "You use fine and precise instruments. It is an exercise in art. . . . It all rests on how precisely and artistically you do the operation." Remarkd another surgeon, "It is important to watch for details, to be neat and technically efficient. I don't like to waste motion and so try to make the operation as well planned and thought out as possible. I'm particular about how the needle is held, where the stitches are placed, the type of suture, and so on—things should look the best and seem easy."

The way surgery is practiced helps block out distractions, and concentrates all one's attention on the procedure. The operating theater is indeed like a stage, with spotlights illuminating the action and the actors. Before an operation surgeons go through steps of preparation, purification, and dressing up in special garments—like athletes before a contest, or priests before a ceremony. These rituals have a practical purpose, but they also serve to separate celebrants from the concerns of everyday life, and focus their minds on the event to be enacted. Some surgeons say that on the mornings before an important operation they put themselves on "automatic pilot" by eating the same breakfast, wear-

ing the same clothes, and driving to the hospital by the same route. They do so not because they are superstitious, but because they sense that this habitual behavior makes it easier for them to devote their undivided attention to the challenge ahead.

Surgeons are lucky. Not only are they paid well, not only do they bask in respect and admiration, but they also have a job built according to the blueprint of flow activities. Notwithstanding all these advantages, there are surgeons who go out of their minds because of boredom, or because they are reaching after unattainable power and fame. What this indicates is that important as the structure of a job is, by itself it won't determine whether or not a person performing that job will find enjoyment in it. Satisfaction in a job will also depend on whether or not a worker has an autotelic personality. Joe the welder enjoyed tasks that few would regard as providing opportunities for flow. At the same time some surgeons manage to hate a job that seems to have been intentionally created to provide enjoyment.

To improve the quality of life through work, two complementary strategies are necessary. On the one hand jobs should be redesigned so that they resemble as closely as possible flow activities—as do hunting, cottage weaving, and surgery. But it will also be necessary to help people develop autotelic personalities like those of Serafina, Joe, and Ting, by training them to recognize opportunities for action, to hone their skills, to set reachable goals. Neither one of these strategies is likely to make work much more enjoyable by itself, in combination, they should contribute enormously to optimal experience.

THE PARADOX OF WORK

It is easier to understand the way work affects the quality of life when we take the long view, and compare ourselves with people from different times and cultures. But eventually we have to look more closely at what is happening here and now. Ancient Chinese cooks, Alpine farmers, surgeons, and welders help illuminate the potential inherent in work, but they are not, after all, very typical of the kind of job most people do nowadays. What is work like for average American adults today?

In our studies we have often encountered a strange inner conflict in the way people relate to the way they make their living. On the one hand, our subjects usually report that they have had some of their most positive experiences while on the job. From this response it would follow that they would wish to be working, that their motivation on the job would be high. Instead, even when they feel good, people generally say

that they would prefer not to be working, that their motivation on the job is low. The converse is also true: when supposedly enjoying their hard-earned leisure, people generally report surprisingly low moods; yet they keep on wishing for more leisure.

For example, in one study we used the Experience Sampling Method to answer the question: Do people report more instances of flow at work or in leisure? The respondents, over a hundred men and women working full-time at a variety of occupations, wore an electronic pager for one week, and whenever the pager beeped in response to signals sent at eight random times each day for a week, they filled out two pages of a booklet to record what they were doing and how they felt at the moment they were signaled. Among other things, they were asked to indicate, on ten-point scales, how many challenges they saw at the moment, and how many skills they felt they were using.

A person was counted as being in flow every time he or she marked both the level of challenges and the level of skills to be above the mean level for the week. In this particular study over 4,800 responses were collected—an average of about 44 per person per week. In terms of the criterion we had adopted, 33 percent of these responses were "in flow"—that is, above the mean personal weekly level of challenges and skills. Of course, this method of defining flow is rather liberal. If one only wished to include extremely complex flow experiences—say, those with the highest levels of challenges and skills—perhaps fewer than 1 percent of the responses would qualify as flow. The methodological convention adopted here to define flow functions somewhat like a microscope: depending on the level of magnification used, very different detail will be visible.

As expected, the more time a person spent in flow during the week, the better was the overall quality of his or her reported experience. People who were more often in flow were especially likely to feel "strong," "active," "creative," "concentrated," and "motivated." What was unexpected, however, is how frequently people reported flow situations at work, and how rarely in leisure.

When people were signaled while they were actually working at their jobs (which happened only about three-fourths of the time, because, as it turned out, the remaining one-fourth of the time on the job these average workers were daydreaming, gossiping, or engaged in personal business), the proportion of responses in flow was a high 54 percent. In other words, about half the time that people are working they feel they are confronting above-average challenges, and using above-average skills. In contrast, when engaged in leisure activities such

as reading, watching TV, having friends over, or going to a restaurant, only 18 percent of the responses ended up in flow. The leisure responses were typically in the range we have come to call *apathy*, characterized by below-average levels of both challenges and skills. In this condition, people tend to say that they feel passive, weak, dull, and dissatisfied. When people were working, 16 percent of the responses were in the *apathy* region; in leisure, over half (52 percent).

As one would expect, managers and supervisors were significantly more often in flow at work (64 percent) than were clerical workers (51 percent) and blue-collar workers (47 percent). Blue-collar workers reported more flow in leisure (20 percent) than clerical workers (16 percent) and managers (15 percent) did. But even workers on the assembly lines reported they were in flow more than twice as often at work as in leisure (47 percent versus 20 percent). Conversely, *apathy* was reported at work more often by blue-collar workers than by managers (23 percent versus 11 percent), and in leisure more often by managers than by blue-collar workers (61 percent versus 46 percent).

Whenever people were in flow, either at work or in leisure, they reported it as a much more positive experience than the times they were not in flow. When challenges and skills were both high they felt happier, more cheerful, stronger, more active; they concentrated more; they felt more creative and satisfied. All these differences in the quality of experience were very significant statistically, and they were more or less the same for every kind of worker.

There was only a single exception to this general trend. One of the questions in the response booklet asked respondents to indicate, again on a ten-point scale from no to yes, their answer to the following question: "Did you wish you had been doing something else?" The extent to which a person answers this with a no is generally a reliable indication of how motivated he or she is at the moment of the signal. The results showed that people wished to be doing something else to a much greater extent when working than when at leisure, and this regardless of whether they were in flow. In other words, motivation was low at work even when it provided flow, and it was high in leisure even when the quality of experience was low.

Thus we have the paradoxical situation: On the job people feel skillful and challenged, and therefore feel more happy, strong, creative, and satisfied. In their free time people feel that there is generally not much to do and their skills are not being used, and therefore they tend to feel more sad, weak, dull, and dissatisfied. Yet they would like to work less and spend more time in leisure.

What does this contradictory pattern mean? There are several possible explanations, but one conclusion seems inevitable: when it comes to work, people do not heed the evidence of their senses. They disregard the quality of immediate experience, and base their motivation instead on the strongly rooted cultural stereotype of what work is *supposed* to be like. They think of it as an imposition, a constraint, an infringement of their freedom, and therefore something to be avoided as much as possible.

It could be argued that although flow at work is enjoyable, people cannot stand high levels of challenge all the time. They need to recover at home, to turn into couch potatoes for a few hours each day even though they don't enjoy it. But comparative examples seem to contradict this argument. For instance the farmers of Pont Tremaz work much harder, and for longer hours, than the average American, and the challenges they face in their daily round require at least as high levels of concentration and involvement. Yet they don't wish to be doing something else while working, and afterward, instead of relaxing, they fill their free time with demanding leisure activities.

As these findings suggest, the apathy of many of the people around us is not due to their being physically or mentally exhausted. The problem seems to lie more in the modern worker's relation to his job, with the way he perceives his goals in relation to it.

When we feel that we are investing attention in a task against our will, it is as if our psychic energy is being wasted. Instead of helping us reach our own goals, it is called upon to make someone else's come true. The time channeled into such a task is perceived as time subtracted from the total available for our life. Many people consider their jobs as something they have to do, a burden imposed from the outside, an effort that takes life away from the ledger of their existence. So even though the momentary on-the-job experience may be positive, they tend to discount it, because it does not contribute to their own long-range goals.

It should be stressed, however, that "dissatisfaction" is a relative term. According to large-scale national surveys conducted between 1972 and 1978, only 3 percent of American workers said they were very dissatisfied with their jobs, while 52 percent said they were very satisfied—one of the highest rates in industrialized nations. But one can love one's job and still be displeased with some aspects of it, and try to improve what is not perfect. In our studies we find that American workers tend to mention three main reasons for their dissatisfaction with their jobs, all of which are related to the quality of experience typically available to them at work—even though, as we have just seen,

their experience at work tends to be better than it is at home. (Contrary to popular opinion, salary and other material concerns are generally not among their most pressing concerns.) The first and perhaps most important complaint concerns the lack of variety and challenge. This can be a problem for everyone, but especially for those in lower-level occupations in which routine plays a major role. The second has to do with conflicts with other people on the job, especially bosses. The third reason involves burnout: too much pressure, too much stress, too little time to think for oneself, too little time to spend with the family. This is a factor that particularly troubles the higher echelons—executives and managers.

Such complaints are real enough, as they refer to objective conditions, yet they can be addressed by a subjective shift in one's consciousness. Variety and challenge, for instance, are in one sense inherent characteristics of jobs, but they also depend on how one perceives opportunities. Ting, Serafina, and Joe saw challenges in tasks that most people would find dull and meaningless. Whether a job has variety or not ultimately depends more on a person's approach to it than on actual working conditions.

The same is true of the other causes of dissatisfaction. Getting along with co-workers and supervisors might be difficult, but generally can be managed if one makes the attempt. Conflict at work is often due to a person's feeling defensive out of a fear of losing face. To prove himself he sets certain goals for how others should treat him, and then expects rigidly that others will fulfill those expectations. This rarely happens as planned, however, because others also have an agenda for their own rigid goals to be achieved. Perhaps the best way to avoid this impasse is to set the challenge of reaching one's goals while helping the boss and colleagues reach theirs; it is less direct and more time-consuming than forging ahead to satisfy one's interests regardless of what happens to others, but in the long run it seldom fails.

Finally, stresses and pressures are clearly the most subjective aspects of a job, and therefore the ones that should be most amenable to the control of consciousness. Stress exists only if we experience it; it takes the most extreme objective conditions to cause it directly. The same amount of pressure will wilt one person and be a welcome challenge to another. There are hundreds of ways to relieve stress, some based on better organization, delegation of responsibility, better communication with co-workers and supervisors; others are based on factors external to the job, such as improved home life, leisure patterns, or inner disciplines like transcendental meditation.

These piecemeal solutions may help, but the only real answer to coping with work stress is to consider it part of a general strategy to improve the overall quality of experience. Of course this is easier said than done. To do so involves mobilizing psychic energy and keeping it focused on personally forged goals, despite inevitable distractions. Various ways of coping with external stress will be discussed later, in chapter 9. Now it may be useful to consider how the use of leisure time contributes—or fails to contribute—to the overall quality of life.

THE WASTE OF FREE TIME

Although, as we have seen, people generally long to leave their places of work and get home, ready to put their hard-earned free time to good use, all too often they have no idea what to do there. Ironically, jobs are actually easier to enjoy than free time, because like flow activities they have built-in goals, feedback, rules, and challenges, all of which encourage one to become involved in one's work, to concentrate and lose oneself in it. Free time, on the other hand, is unstructured, and requires much greater effort to be shaped into something that can be enjoyed. Hobbies that demand skill, habits that set goals and limits, personal interests, and especially inner discipline help to make leisure what it is supposed to be—a chance for *re-creation*. But on the whole people miss the opportunity to enjoy leisure even more thoroughly than they do with working time. Over sixty years ago, the great American sociologist Robert Park already noted: "It is in the provident use of our leisure, I suspect, that the greatest wastes of American life occur."

The tremendous leisure industry that has arisen in the last few generations has been designed to help fill free time with enjoyable experiences. Nevertheless, instead of using our physical and mental resources to experience flow, most of us spend many hours each week watching celebrated athletes playing in enormous stadiums. Instead of making music, we listen to platinum records cut by millionaire musicians. Instead of making art, we go to admire paintings that brought in the highest bids at the latest auction. We do not run risks acting on our beliefs, but occupy hours each day watching actors who pretend to have adventures, engaged in mock-meaningful action.

This vicarious participation is able to mask, at least temporarily, the underlying emptiness of wasted time. But it is a very pale substitute for attention invested in real challenges. The flow experience that results from the use of skills leads to growth; passive entertainment leads nowhere. Collectively we are wasting each year the equivalent of millions

of years of human consciousness. The energy that could be used to focus on complex goals, to provide for enjoyable growth, is squandered on patterns of stimulation that only mimic reality. Mass leisure, mass culture, and even high culture when only attended to passively and for extrinsic reasons—such as the wish to flaunt one's status—are parasites of the mind. They absorb psychic energy without providing substantive strength in return. They leave us more exhausted, more disheartened than we were before.

Unless a person takes charge of them, both work and free time are likely to be disappointing. Most jobs and many leisure activities—especially those involving the passive consumption of mass media—are not designed to make us happy and strong. Their purpose is to make money for someone else. If we allow them to, they can suck out the marrow of our lives, leaving only feeble husks. But like everything else, work and leisure can be appropriated for our needs. People who learn to enjoy their work, who do not waste their free time, end up feeling that their lives as a whole have become much more worthwhile. "The future," wrote C. K. Brightbill, "will belong not only to the educated man, but to the man who is educated to use his leisure wisely."