Chapter 12

Converting Challenges to Enjoyment: The Flow Experience

Being Adolescent

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IF bad moods occur when there is conflicting information in consciousness, the opposite is true of positive experience. When we feel good, what passes through awareness is like music: sensations, thoughts, and feelings flow without effort and build into a common theme that fits with our goals.

How do teenagers get to feel this way? Partly by doing things that are designed to make them feel good. In the course of history, mankind has invented a variety of methods for creating and restoring order in consciousness. They vary all the way from the sublime to the frivolous; from religion and art to sports and entertainment. These activities provide a sense of excitement and elation that is rare in everyday life. They are not necessary for the survival of the body, but they do help maintain harmony in consciousness and provide a framework of order in experience.

To borrow a parallel from the physical sciences, we will call those institutions that help people feel better, psychic "dissipative structures." This is a term made popular by Ilya Prigogine (1976, 1980), the Nobel Prize–winning chemist who has grappled with the question of how it was possible for ordered complexity to evolve in nature, given the second law of thermodynamics, which essentially says that everything is continually falling apart. What he concluded was that living systems have a special ability to use bits of energy, while they are dispersing, to create and store order. Plants, for instance, are very good at transforming light, the waste product of the sun's combustion, and various organic materials, also waste products, into complex material patterns and processes. Prigogine coined the term "dissipative structure" to describe this ability to exploit chaos, to make use of available scraps of energy that otherwise would be lost or would add to the disorder of the universe. All energy and order decays and dissipates with time. But dissipative structures are able to turn this eternal loss into at least a temporary gain. Psychic dissipative structures, therefore, are those attentional habits that can exploit random, conflicting information to create order in experience.

We can distinguish two major types of such structures: those that make adolescents feel good in the present, and those that might help them feel good later, as they grow into adulthood. The two types are not mutually exclusive, but it is useful to look at them separately. In this chapter we shall examine the first type, those activities that provide teenagers with negentropic experiences in their current lives. These might be looked at as short-range dissipative structures, ways of acting that restore order in consciousness. In the next chapter we shall consider long-term dissipative structures, those that contribute to enduring personal and societal harmony.

Emergent Experiences

To identify the kind of activities adolescents find most positive, the ones that correspond to short-term psychic dissipative structures, we asked each student one question: "What are the things in your life you enjoy doing most?" Out of the answers to this question we hoped to construct a picture of the perfect experience as teenagers see it.

The answers we got were many and diverse; some students described as few as three things they "enjoyed most," some went as far as listing fifteen. The median number was eight activities. To get a clearer picture, we focused the questioning on the activity each person mentioned as number one, or on two top choices, when the student could not decide which was most enjoyable.

These activities are listed in Table 12.1. The seventy-five students mentioned 51 *different* activities as being most enjoyable. One thing is immediately apparent. Practically all the items listed in the table are leisure activities: talk, sports, hobbies, or recreation. This is not really surprising; it simply confirms that, for adolescents at least, leisure activities act as dissipative structures that transform conflict and randomness into order in consciousness. But the second striking thing about the table is the great variety of different activities listed. This diversity of favorite activities poses a problem: Is there a pattern in all the individual uniqueness? What is there about enjoyable experience except to say that some kids like scuba diving, others like to play the guitar, or be with their friends, or go to bars? What can be the common elements in such different activities that provide negentropic experiences?

Even combining the fifty-one different activities in some appropriate groupings barely helps. In Table 12.1, there are seven groups. The largest is sports, followed by interpersonal interaction: being with friends, or with a particular friend. In some ways, these two large groups represent opposite experiences:

TABLE 12.1
Survey of Most Enjoyable Activities

		N	Totals
Interpersonal	Friends	18	
	Boyfriend/Girlfriend	6	
	Family	2	
	Talking over Phone, Parties, Bars	4	
			30
Sports: (team)	Baseball, Softball	5	
	Basketball	6	
	Soccer, Volleyball, Hockey	3	
(individual)	Tennis	5	
	Sailing	3	
	Track	3	
	Skating	2	
	Water Skiing	2	
	Scuba Diving	2	
	Flying, Golf, Swimming, Wrestling, Skiing, Horseback Riding	7	
			38
Outdoors	Camping	2	
	Nature, Travel, Fishing	3	
			5
Art	Singing	4	
	Dancing	4	
	Music	3	
	Ballet	2	
	Piano	2	
	Guitar	2	
	Acting, Photography, Jewelry	3	
			20
Automotive	Cars, Racing, Motorcycles	4	
			4
Passive	TV	8	
	Being Alone, Cards, Getting High	3	
			11
Productive	Work	2	
	Shopping	2	
	Baking	2	
	Using Brain, Reading, Mowing Lawn	3	
			9
			117*

*Note: 33 teenagers mentioned one and 42 teenagers mentioned two activities as being most enjoyable, for a total of 117.

Sports, especially individual ones, are based on competition and peak performance; friendship, by contrast, depends on cooperation and relaxed, informal interaction. The next largest cluster after sports and friends is art. Most of these activities, seventeen out of twenty, involve music. Neither the visual arts nor writing are mentioned even once among the top two favorite activities, although they appear further down the individual lists.

Groups of almost equal size mentioned passive leisure and productive activities. Passive leisure is mostly TV watching, which no one ever mentioned as a favorite activity by itself.

As interesting as what is included in the list is what is not. For example, despite the open and relaxed nature of the interview, not one of the respondents gave sex as the most enjoyable activity (it was mentioned a few times, but never first), and only one said "getting high" was what he liked to do best. This omission could mean one of several things. It could mean that our adolescents are so repressed that they cannot admit, even to themselves, where their main enjoyment comes from. Or it could mean that while they know, they feel embarrassed to admit it, and prefer to place socially legitimate activities at the top of the list. Finally, it could also mean that the teenagers reported accurately what they actually experienced, and that, contrary to popular beliefs, sex and drugs are indeed not the most enjoyable activities teenagers experience. They might be the most *pleasurable,* but they are not necessarily the most *enjoyable;* the distinction between these will be explored later, after we get around to defining the nature of enjoyment.

The list presents an embarassment of riches. Its variety suggests that almost any activity—even work, shopping, or baking a cake—can provide the height of emotional harmony which will dispel, at least temporarily, entropy in consciousness. When one looks at the reasons for enjoyment, an even more bewildering variety appears. Not only are the things teenagers claim to favor different, but the reasons for favoring one activity over another also appear to be extremely idiosyncratic.

To give a sense for this variety, let us look at four typical adolescents, two girls, two boys, and see how they explain why their favorite activities are so enjoyable.

Ronny, a tough young man with a lower-than-average scholastic record, said that what he most enjoys doing is spending time with his grandmother in Wisconsin, then football, basketball, baseball, being with friends, hunting with his dad, and street hockey, in that order. What he definitely does not like is "being bugged." His life is full of disorder, and he has a low tolerance for any additional hassles. Thus, it is perhaps not surprising that he characterized most of his favorite activities as "rough sports." The foremost among these is football. Ronny plays defense—end or linebacker—and has been on the school team for two years. He says he likes "mauling people, and hurting 'em so they're afraid to come again." It is important, he says, because "I want others to know about me." This aggressive acting out suggests that Ronny needs clear, unambiguous feedback about his existence, which can be easily gotten in competitive settings, especially those involving aggression. If you hurt someone, or shoot an animal in hunting, you know you are somebody, it creates a certain kind of order out of the chaos. The pain on the face of the adversary or the lifeless carcass are witness to your awful power. As is all too often the case, personal negentropy for Ronny is achieved at the price of denying the goals of other beings. The order in his consciousness is achieved at the expense of disorder elsewhere. Because of this, the psychic dissipative structures Ronny uses are far from efficient—the total amount of disorder in his environment is not reduced.

But Ronny's story is not so simple and clear-cut. The first activity he mentioned was living with his grandmother in Wisconsin. He had lived in that small town until he was three years old, and he looks back on that period with nostalgia. Ronny returns almost every month, for several days, to visit his grandmother. He describes his stays in the country as occasions for total gratification: "If I want something—I just ask my relatives." As soon as he gets there, the word spreads around to the girls that he has arrived, and "the phone calls start coming in." Grandmother takes Ronny to bars, and he takes girls roller skating, to the movies, and parking in the woods. While grandmother indulges him, Ronny doesn't mind reciprocating somewhat.

He does work around the yard, or on the cars: "I don't mind doing it for her." This set of activities appears to be as enjoyable to Ronny as the first, yet in contrast to football or hunting, it does not create disorder in the environment.

So it is not only that almost every teenager in our sample prefers a different activity, and for a different reason. Even the same person, on closer inspection, shows preferences for seemingly incompatible experiences. Ronny, the macho sportsman, reveals a soft underbelly, a hankering for being spoiled by grandma.

Joan is a pretty and fairly average student. She lists going to concerts as her favorite activity, followed by tennis, football, cooking, shopping, and softball. The concerts she speaks of are by two groups with teenage appeal, Chicago and The Beachboys. Going to a concert is not something to get into and out of casually. "You work yourself into it by listening to their music over and over again before the concert," Joan explains. Afterward, the effect may last for over two weeks while Joan keeps reliving the experience as she fantasizes about it and talks it over again and again with her friends. One wonders how many subscribers to the Chicago Symphony, or how many concertgoers the world over, invest so much psychic energy in and gain so much emotional order from their musical experiences.

The center of the experience is "the natural high" of the concert itself. As the musical numbers follow each other, Joan starts to concentrate on the rhythm of the performance, on the response of the audience to the sound. She begins to be caught up in the pounding beat of the music that unites the crowd into an organism that breathes, screams, and moves together. To the observer, the heaving mass might seem pure chaos, but the way Joan describes it, the insider experiences belonging to a uniquely negentropic system. This feeling is accomplished by "thinking what they [the musicians] are thinking." Joan concentrates on the sounds, words, expressions, and movements of the singers, until she feels exactly the way she is supposed to feel. Presumably all the other teenagers in the audience are experiencing the same feeling at the same time. The result is a harmony of hundreds of consciousnesses tuned in on the same wavelength: feel-

ings, images, fears, and longing alternate in unison, each person's consciousness magnified and reflected a hundredfold.

No wonder Joan, and so many young people around her, call this sort of experience a "natural high." Emile Durkheim, the great sociologist, believed that religion and culture (the earliest psychic dissipative structures) began in such orgiastic settings around the campfires of our ancestors. Durkheim (1912) called the feeling of unity induced by the beat of drums, the dance, and drugs "collective effervescence"—a state of being leading to "collective consciousness" and eventually to a belief in the reality of a social organism transcending the individual. Others have pointed out that in an already organized society, mass frenzy of this kind helps to destroy the existing roles and rules, and redirects the attention of audiences away from existing goals (Dipboye 1977). The passionate lyrics of rock music, combined with its repetitive, stable beat, create order out of the chaotic psychological variability that we have seen characterizing adolescents' lives. It uses their daily cast of feelings, their longings and impulses, to shape a powerful emotional experience, generating awareness of class solidarity among the young (Frith 1981). It gives girls like Joan the feeling that they belong to something huge, powerful, lively—an emotional "high" that one simply cannot get in everyday life. Compared to it, the other things Joan enjoys, like cooking and shopping, appear pale and mundane. Tennis and the other sports she likes, although they give her a sense of power and aliveness, fail to provide the excitement of being part of a great crowd, of being a small speck of sensation merged with the pulse of the group consciousness.

Bruce's way of enjoying himself is similar to Joan's, but is much more diffused and relaxed. He mentions twelve activities he enjoys most, including horse and floor exercises in gymnastics, swimming, and bike riding. But he says that being with friends is the all-around favorite. He describes this as being sort of a smooth, easygoing, negentropic system. Bruce says he "likes to have things kind of set so I don't have to worry about anything." With friends he doesn't have to worry because "you can be yourself and say what you want—talk about anything you want. If you're in a bad mood, they know," whereas "if you're

with people you don't know, you have to think about what to say. With friends it comes automatically, you can say anything." Apparently Bruce enjoys being in a group where interaction moves by itself, so to speak, without needing attention devoted to checking and monitoring the system.

The goal of the group is simply to "have a good time. But you don't think of it as a goal, it just happens." It happens when one of the guys starts a routine, perhaps saying, "Boy, are we having a good time." Each friend has a somewhat different routine that the others know and know how to respond to. Thus the "system" is made up of well-integrated, but differentiated units that smoothly trigger off set sequences of mood and behavior in each other. When a routine starts, it tends to snowball: "lots of gossiping, giggling, laughing." Soon they might become loud and rowdy, or even obnoxious. The action lasts as long as "everyone stays in the same mood. Any change, if it starts to rain, if someone leaves, may stop it."

What Bruce describes is an interaction system in which each person's psychic energy is focused inward on the other members, with the goal of providing positive feedback to each other. Habit has taught them what to expect from each other; they know how to produce a good mood and how to stay there. What they do sounds similar to the performance of a chamber orchestra, or, more accurately, of a jazz ensemble. Instead of modulating sound, they harmonize mood through sequences of jokes and physical movements. In the random flux of everyday life, they create a familiar pattern of negentropic interaction.

Joan and her cohorts achieve a merging of consciousness through the mediation of the rock group and its sounds; Bruce achieves it through the "routines" he and his friends have developed to focus attention on the good times they are having. Although they are using different means, both teenagers help to create a concentration of psychic energy by focusing their attention on the same moods and feelings. Then, when all this concentrated energy takes shape and begins to exist, as if on its own, each teenager can feel a part of this pattern of order that transcends his or her individuality, and can forget how small and fragile the self is.

By contrast, Lynn emphasizes control, precision, and skill as her conditions for enjoying what she does. She mentions twelve activities, half of them social, half musical. Her favorite activity is dancing: ballet, modern, and jazz. On and off, she has been dancing since she was four years old. At the time of the interview she practiced 2 or 3 hours a day, and was always on the move between a downtown studio, a local club, and the school gym. Outside of studying, there is nothing else Lynn devotes as much psychic energy to as dancing. She says, "It's the only thing I can really do that my mind really concentrates on." By now, involvement in the dance starts very easily: She is "into" the activity "as soon as I put on my leotards." For Lynn, dance provides a psychic dissipative structure because the activity makes it possible for her to concentrate her attention. Whereas in normal life her attention is often wasted in random patterns—she is as emotionally variable as anyone else—when dancing she focuses her attention and uses it efficiently.

Lynn has learned a way of interacting with space through her own body, a way of expressing herself through disciplined movement. This kinetic language allows her to become part of a very special system of communication. In it she finds an "outlet for my energy, an escape." But escape does not mean relaxation; quite the contrary. To escape into the world of dance one needs constant discipline and effort. Dancing "is like putting a machine together and making it work," a matter of precise, skilled performance; "You have to get the technique before you can work on the art." But it is worth putting up with it all because "I like being in control. That's why I like to dance."

Characteristics of the Flow Experience

The differences between how Lynn, Bruce, Joan, and Ronny describe their favorite activities are, at first sight, very noticeable. There does not seem to be much in common among any of

them. And if one were to add the stories of the remaining seventy-one students, the variety of explanations would increase in a linear fashion.

Yet, there are certain underlying similarities in these accounts. By looking at how these teenagers describe enjoyable experiences, a pattern does emerge. For instance, all four said their favorite activity provided challenges that required *concentration* on some aspect of the environment. For Ronny it is the football opposition, for Joan the sound and expression of the rock band, in Bruce's case it is the friends' routines, in Lynn's, the sequence of movements in the dance. In each case, one had to learn first a set of *rules of interaction* (call it football, music, dance, or just "goofing around" with friends). Then, by shaping consciousness and behavior in accordance with the rules, each teenager became able to participate in the activity. As they did so, their actions produced *feedback.* That is, each person was able to tell how well he or she was doing in terms of the rules. For Ronny the feedback was provided by the adversaries he left lying on the field. Joan read it from the expressions of the faces of the audience and musicians, telling her that her feelings were shared. Bruce could tell it from the interplay of comic routines, and Lynn from the mirror in the studio, the reactions of her teacher, the audience, and ultimately her internalized standards of excellence in conjunction with kinesthetic sensations.

As adolescents get involved in their own thing, they begin to exist in a special environment set apart from everyday life. Football, music, friends, and dance—each is a little world of its own, providing unique experiences: sensations, feelings, and thoughts that are ordered, predictable, yet very different from the mundane occasions of normal existence. By restructuring consciousness according to the rules of the activity, the person loses track of his or her usual self. One becomes *less self-conscious* because there is less attention left to focus inward. Whenever the self is noticed at all, one sees it interacting with a larger system—the team, the music, friends, the pattern of the dance—so that one actually experiences a sense of *self-transcendence,* or of belonging to a more powerful system.

The spontaneous choice of challenges that require concentration, a set of rules to guide one's psychic energy, clear goals and feedback, loss of self-consciousness—these are the main elements of those experiences people find most enjoyable. They are the conditions for the state of psychic negentropy that we have called the "flow experience" (Csikszentmihalyi 1975, 1980). Of course, these conditions are present, to a certain extent, in everything we do—in doing homework, riding the subway, or eating dinner. But in everyday life, rules are often contradictory, goals are unclear, and feedback lacking. Everyday experience is often confusing and unsatisfactory. Therefore, we search out or create activities where rules, goals, challenges, and feedback are sharp and well-ordered. Flow activities tend to produce flow experiences in those who participate in them. Football, music, dance, friends—and the many other activities listed in Table 12.1—are psychic dissipative structures, or flow activities, designed to provide negentropic experiences.

This cluster of conditions that trigger flow is not limited to adolescence. In fact, we first discovered it in adults (Csikszentmihalyi 1975). When we asked chess masters, rock climbers, composers of music, and even surgeons to tell how it felt to be involved in what they liked to do, they described their experiences along these same dimensions. In all of these activities, the experience of enjoyment was characterized above all by a deep, spontaneous involvement with the task at hand. In flow, one is carried away by the interaction between the self and the activity: the climber and the rock, the painter and the canvas, the surgeon and the operation. To the extent that one feels immersed in the activity, the distinction between *I* and *it* becomes irrelevant. As a teenage rock dancer describes her experience, "when I'm dancing, I don't use my awareness of myself to control or direct my body. It seems to just exist. It's tuned in mostly to the music or the environment and less to controlling or directing my actions."

Attention is focused on whatever needs to be done, and there is not enough left over to worry or get bored or distracted. The sense of time becomes distorted; hours pass by in minutes, even

though afterward it might seem that an eternity has elapsed. This is how the rock dancer talks about it:

> Two things happen. One is that it seems to pass really fast in one sense. After it's passed, it seems to have passed really fast. I see that it's one in the morning, and I say, 'Ah, ha, just a few minutes ago it was only eight.' But then while I'm dancing . . . it seems like it's been much longer than maybe it really was.

The ego that surveys and evaluates our actions disappears in the flow of experience; one is freed of the confines of the social self and may feel an exhilarating sense of transcendence, of belonging to a larger whole. One mountaineer describes the experience of climbing: "It's . . . almost like an egoless thing in a way—somehow the right thing is done without . . . thinking about it or doing anything at all. . . . It just happens . . . and yet you're more concentrated." And another says: "You become a robot—no, more like an animal. It's pleasant. There is a feeling of total involvement. . . . You feel like a panther powering up the rock."

These qualities describe how people feel when they enjoy what they are doing. Surgeons in the operating room or laborers on the assembly line use the same words to describe their work when it is enjoyable and rewarding. Flow differs from "pleasure" in requiring active participation, whether mental, physical, or both. Psychologically it includes all four dimensions of psychic negentropy—activation and cognitive efficiency as well as motivation and positive affect. Despite the huge differences among the things teenagers said they enjoyed, the underlying reason for enjoying them was the same: When involved with the activity, they experienced psychic negentropy. Playing football and playing the violin are certainly very different, but in both cases what motivates the player to play is the ordered state the activities create in consciousness. But what makes an activity capable of producing a flow experience?

Whether an activity is enjoyable or not depends a great deal on the balance of challenges it provides, in relation to the actor's skills. When an activity presents too many opportunities for ac-

tion, or challenges, and these overwhelm our skills, we feel anxious. When skills outweigh the challenges available we feel bored. Flow occurs when we come close to matching the two. Football, music, dance, interaction among friends, and the hundred other activities our teenagers mentioned as being the most enjoyable, all offer a certain range of challenges against which teens match their skills. It is important to note that challenges and skills are partly objective features of the activity or situation, partly the results of one's subjective attitude. The two are related, and both are important in producing the experience. For instance, Joan presumably can enter flow more easily in a rock concert than in a dentist's waiting room, because the concert presents her with a manageable task appropriate to her skills. But even at the dentist's, she could experience flow if she restructured the situation to optimize its potential challenges—by playing out a song in her head, by focusing her attention on a challenging article in a magazine, by joking with the receptionist, or by making critical observations to herself about the decorative scheme in the waiting room.

An essential feature of this structure of challenges and skills is that their balance is not static. If the complexity of challenge does not increase with time, flow gives way to boredom. As we practice an activity, our skills in it increase until they outweigh the challenges. Hence, to maintain flow, there must be provisions made to find new things to engage our attention and skill, lest what used to be fun drift into tedium. For a dancer like Lynn, this means new moves to learn, more difficult sequences to master, or perhaps it means developing an interest in teaching others to dance, or in the esthetic, historical, or biomechanical dimensions of the medium. Pleasure can be repeated again and again, as instinctual tensions build up and demand to be released; enjoyment, however, must grow in order to survive. Unless the experience becomes more complex, it stops providing enjoyment (Csikszentmihalyi 1982a, b). This fact has very important implications for adolescent development. While pleasure does not lead anywhere, enjoyment stimulates the acquisition of new skills, and thus promotes growth. And what is more, it does so without increasing entropy in adolescent consciousness.

Measuring Flow in Different Activities

To see how well this theoretical model works when applied to teenagers' experiences, Mayers (1978) asked the seventy-five students in this study to rank their favorite activity, and then the courses they were taking in school, on ten items, each of which was supposed to measure one dimension of the flow experience. For example, one item said, "I would do it even if I didn't have to," which was supposed to tap the autotelic, or intrinsically motivating aspect of the activity. Table 12.2 shows how the four students described earlier in the chapter ranked their favorite activities and courses on this dimension.

All four teenagers said that they would do "a great deal" of their favorite activity even if they didn't have to; they gave a *9*, the highest score, to it every time. By contrast, school classes were rated, on the average, 3.2 by Ronny, 7 by Joan, 2.6 by Bruce, and 6.2 by Lynn. Clearly the two boys would be unlikely to study if they didn't have to; for them school is quite uniformly exogenous. For the two girls, some classes are as endogenous as their favorite activity is: gym for both, science for Joan, and French for Lynn. This fact, that *some* classes could be intrinsically motivating, is a very important point to which we shall return later; it suggests that even productive activities can be enjoyable.

There were nine items in the scale, in addition to the one shown in Table 12.2. Eight of the ten items were highly correlated, showing that they are tapping related elements of experience. The sum of scores on the full ten-item scale was used to assess how close to an ideal flow experience the most enjoyable activities were rated, and then to compare these ratings with the way various school classes were rated.

Most of the enjoyable activities were rated an average of 7.5 over the ten items of the 9-point scale. The average for those classes each student ranked most enjoyable was 7.2. In other words, although favorite activities were rated as providing more flow than favorite classes, the difference was rather small, although significant. Other classes, however, were rated much

TABLE 12.2
Students' Rankings of Favorite Activities and Classes

"I Would Do It Even If I Didn't Have To":		Student's Name					
		Ronny		*Joan*	*Bruce*		*Lynn*
A Great Deal	9	Football*		Rock Concert*	Friends*		Dancing*
				Science			French
				Gym			Gym
	8						
Quite a Bit	7	Math		English			Sociology
				Humanities			
	6						American History
A Fair Amount	5						
	4	Gym					English
Sometimes	3	World History		Astronomy	Sociology		
					Earth Science		
					American Literature		
					Child Development		
	2						Computer Programming
Almost Never	1	English			Gym		
		Spanish					
Rating of Favorite Activity:		9		9	9		9
Mean Rating of Classes:		3.2		7.0	2.6		6.2

*Favorite activities

lower in flow; the average for the second-ranked class was 6.3, for the third-ranked, 5.5, for the fourth- and fifth-ranked, 4.7 and 4.4; each was lower than the preceding one by a value significant at the one-in-a-thousand probability level.

In other words, the theoretical dimensions of the flow model, when operationalized in the ten-item scale, bear out the claim that enjoyment consists of a particular cluster of experiences that can occur in playful leisure activities or in formal school classes—experiences that cut across the superficial diversity of such things as football, dancing, working, skating, or being with friends.

Work, Study, and Enjoyment

Common to the things we enjoy doing is this feeling of being totally alive. Unfortunately, in our culture at least, people usually experience flow only in nonproductive activities like sports and games. Most people never get to to enjoy doing the things they need to in order to survive and be accepted in contemporary society—things like study or work. Required activities become sources of psychic entropy. We know from the previous chapters that teenagers experience productive activities—homework, classwork, work—as entropic, and the same is true of most maintenance tasks. Adults are not that much better off; the typical worker finds his or her job constraining and alienating (Csikszentmihalyi and Graef 1980; Rubinstein, Csikszentmihalyi and Graef 1980).

Most teenagers, like most adults, feel free and involved only in leisure settings, when they listen to music, go out to a movie, drink with buddies, fiddle with a hobby, or become involved in a game of cards or touch football. Thus, we have developed a dichotomy in our culture between things we must do against our will and things we want to do but which need not be done; between unpleasant necessities and pleasant frivolities. This dis-

tinction is so engrained that by now it appears to be a fact, a law of nature. Many people take it for granted that study, work—the serious business of life—must be boring and meaningless.

Splitting life by such a dichotomy is neither natural nor inevitable. In societies that existed prior to ours, people lacked clear distinctions between work and leisure. What they did for a living often merged into what we would call art, religion, sports, or sociability (Dumazedier 1974; Gunter and Gunter 1980). In less developed societies, singing, dancing, drinking, and partying are so much a part of productive hunting or gathering activities that one simply cannot tell where one starts and the other stops (Firth 1929; Sahlins 1972).

The enjoyable quality of work does not stop with simple hunting societies. In the technologically sophisticated manufacturing districts of eighteenth-century England, for example, weavers and other craftsmen worked at home, surrounded by their family and friends, setting their own plans, schedules, and pace. Work at the looms was intertwined with songs, riddles, and talk (Thompson 1963). Just as the workplace was not separated from the living space, the activity of work was all of a piece with the rest of life.

The real separation between production and leisure begins only about two centuries ago, with the advent of factories. In the eighteenth century, factories developed into "dark, satanic mills" not so much because working conditions in them were harsh—they had been harsh all along—but because by specializing *only* in work, they destroyed the psychological integrity of the worker. In the name of efficiency, of standardization, the factory routine makes it practically impossible for the worker to achieve flow.

The segregation of adolescents in schools occurs historically about the same time as the spread of factories, and for similar reasons. Schools apply methods of mass production and industrial efficiency to the socialization of youth. They try to change attentional structures—goals, habits, cognitive skills—by coercing youth to attend to standardized, sequential information. The curriculum is an assembly line that pushes ideas and activities in front of the student at a fixed rate, ready or not. What is manufactured, however, is a great deal of internal discomfort. To save time, schools concentrate on academic subjects to the exclusion of the issues teenagers really care about. No wonder that the goals of schools have become foreign to most students, and that formal learning is a context for severe psychic entropy.

The fiction that people can actually live in the one-dimensional world of the school or the factory is responsible for much of our unhappiness with day-to-day existence. Of course, whenever possible, people do not conform to the constraints of these institutions.

In a typical 50-minute high school classroom lecture, the average student is awake, staring more or less eagerly at the teacher who is passing on the information, yet at least half the time the student is not really thinking about anything even remotely related to the lecture or to the subject matter. Typical thoughts in the classroom cover the weather outside, prospects for the weekend, and the state of one's digestive system. "Nothing like 40 minutes of taking notes to bore a person to death," writes one girl. Another girl, contemplating hassles with her father, is thinking, "how the male ego needs to be fed." Such thoughts are not great indications of psychic negentropy, but they at least indicate to the students that they are in control of their own consciousness, shaping their thoughts with reference to their own goals. This knowledge alone seems enough to prevent the worst effects of psychic entropy.

But is this situation beyond remedy? Does productive work have to be tolerated in suffering, like the Biblical "curse of Adam"? Many people will claim that it is a romantic utopia to believe that work and study can ever be enjoyable. But if we give up that hope, we forfeit the chance of changing the existing conditions in factories, offices and schools. The guiding ideal, however utopian, should be to slowly transform all social institutions, even the productive and the maintenance ones, into dissipative structures that will increase order in consciousness instead of decreasing it.

Making "productive" activities more flowlike is not an unrealistic goal, even in the alienating technological milieu we live in. We already know that professional jobs can provide as much

enjoyment as any leisure activity does (Csikszentmihalyi 1975). Even less challenging jobs occasionally produce the conditions for flow experience. And as we mentioned, teenagers ranked at least one class, on the average, as being almost as flow-producing as their favorite leisure activity. It is true that four of the five classes they took were significantly less enjoyable. But the impressive thing is that usually there is at least one class out of the five that produces intense flow experiences in the student, close to the same order he experienced in dancing, listening to rock, or playing football. Through clarifying goals, through balancing challenges and skills, through meaningful feedback, students find enjoyment in doing something directly related to their development. This modest finding has tremendous implications, because it proves that school need not be dull and alienating. Amid the constraints, the negative feedback, and the chaos that often characterize classes, it is possible to cull bits and pieces of order that allow one to turn it into an enjoyable time.

Ironically, enjoyment of a given class is not only intrinsically rewarding, but it gets students better grades as well. Flow in school is more than its own reward; it brings external rewards in its wake. Apparently when a class is enjoyable, one learns more from it. At the end of the semester, after we collected flow ratings of the various classes that each student was taking, and after we obtained the ESM-pager reports from the same classes, we also were able to obtain the semester grades students received in those courses. Thus, it was possible to see whether there was any relationship between how much a student enjoyed a class and how well he or she did in it. As Appendix D.20 shows, the classes students rated as having flow-like attributes (that is, the ones they got involved in, where time passed quickly, where the experience was enjoyable, etc.) were the ones in which they wished to be when they were paged, and they were the classes in which they *received the higher grades when the semester was over.*

It is interesting to note that how happy or how strong and alert a student feels in a class has no bearing on the grade he or she will get in the course. Apparently moods in class are influ-

enced by too many other factors for them to show a clear relationship to performance (Appendix D.20). But how intrinsically motivated a student is, and especially how many dimensions of flow he or she experiences in class, predict performance rather well. In fact, when one does a regression analysis on semester grades, holding Grade-Point Average (GPA) constant, the correlation of the flow scales and semester grades climbs to $r = 0.50$. One fourth of the variance in grades and in the reported flow experiences overlap when the students' scholastic achievement is controlled for. Thus the relationship between flow and grades does not simply mean that the better students enjoy classes more. It means that regardless of a student's ability (GPA), the class he or she enjoys more is the one he or she will get the better grades in. In other words, the enjoyable course is the one in which the student will do best. Hardly a staggering revelation—yet what enormous changes there would be if this obvious finding were heeded!

It would mean that educators might stop worrying about how to transmit information, and concentrate instead on how to make learning enjoyable, because only when going to school becomes a flow activity will students be motivated to learn on their own, and grow in the process. Otherwise, education becomes just another alienating experience that increases entropy in the present while offering the specious promise of increasing future negentropy.

To make education enjoyable (and hence growth-producing), two sets of conditions must obtain: The institution needs to present students with opportunities for action they can cope with, and increase these challenges as the individual skills of the learner develop; the teenager should be prepared to internalize the challenges presented by the institution, and have enough skills to begin acting in the school setting. If both these conditions are fulfilled, learning will take care of itself. Sounds easy? Of course it is not. Mass education, despite the increasingly detailed cognitive and affective profiles it provides of individual students, still cannot match teachers' skills with students' skills well enough to make teaching and learning enjoyable.

Research leaves little doubt that the quality of schools and the dedication teachers bring to their jobs make a great difference (Coleman et al. 1982; Rutter et al. 1979). But there is another side to the coin. Not only are educational institutions unable to meet individual students at the level they need to be met in order to be able to experience flow, but schools are increasingly frustrated by students who are less and less able to recognize an intellectual challenge when they see one. It is very difficult for teachers to make academic learning enjoyable when young people lack even the simplest intellectual skills. Difficult, but not impossible. If paraplegics can learn to enjoy playing basketball, a TV-reared generation can surely learn to enjoy the use of the mind.

The best medium of growth in adolescence is a flow activity; when fully involved with challenging actions that test the limits of one's skills, persons know they are alive. Year after year, flow experiences *realize* a person's existence; they build a self that is conscious of its freedom and its history. Without them, how would you know that you existed? Deprived of flow, the self is a plaything of exterior forces, a powerless shadow.

Critics might claim at this point that too much emphasis on enjoyment smacks of hedonism. The claim that optimal development requires flow seems decadent to some people, because they fear that if young people are permitted to enjoy themselves, nothing will ever get done: How are you going to keep them doing what is necessary once they have learned to enjoy themselves? This fear is based on two misunderstandings: the first, that only leisure provides enjoyment; the second, that enjoyment is a form of pleasure. As we have tried to show, neither one of these assumptions is true. It is now time to give a closer look to this second source of misunderstanding, and examine how flow experiences, rather than producing the passive contentment of pleasure, on the contrary drive the person to increasingly complex states of consciousness. With the help of these experiences, more permanent and stable psychic dissipative structures can be built, thus allowing teenagers to resist successfully the onslaught of chaos in later life.