

By Mihaly Csikszentmihalyi

Creative persons differ from one another in a variety of ways, but in one respect they are unanimous: They all love what they do. It is not the hope of achieving fame or making money that drives them; rather, it is the opportunity to do the work that they enjoy doing.

Interviews with engineers and chemists, writers and musicians, historians and architects, sociologists and physicists confirm that they all do what they do primarily because it's fun. Yet many others in the same occupations don't enjoy what they do. So we have to assume that it is not *what* these people do that counts, but *how* they do it.

Being an engineer or a carpenter is not in itself enjoyable, but if one does these things a certain way, then they become intrinsically rewarding. What is the secret of transforming activities so that they are rewarding in and of themselves?

### Programmed for Creativity

When people are given a list and asked to choose the best description of what they enjoy about doing what they enjoy most—reading, climbing mountains, playing chess—the answer most frequently chosen is “designing or discovering something new.” At first, it seems strange that dancers, rock climbers, and composers all agree that their most enjoyable experiences resemble a process of discovery. But the evidence suggests that at least some people should enjoy discovering and creating above all else.

To see the logic of this, consider a simple scenario. Suppose that you want to build an artificial life-form that will have the best chance of surviving in a complex and unpredictable environment, such as that on Earth. You want to install some mechanism that will prepare your creation to confront as many of the sudden dangers and to take advantage of as many of the opportunities that arise as possible. Certainly you would want to design an organism

# Happiness and Creativity

For many people, happiness comes from creating new things and making discoveries.

Enhancing one's creativity may therefore also enhance well-being.

that is basically conservative, that learns the best solutions from the past and keeps repeating them, trying to save energy, to be cautious, and to go with the tried-and-true patterns of behavior.

But the best solution would also include a relay system in a few organisms that would give a positive reinforcement every time they discovered something new or came up

## Going with the Flow

with a novel idea or behavior, whether or not it was immediately useful. It is especially important to make sure that such an organism was not rewarded only for useful discoveries, or else it would be severely handicapped in meeting the future. No earthly builder could anticipate the kind of situations the new species might encounter tomorrow, next year, or in the next decade, so the best program would be one that makes the organism feel good whenever something new is discovered, regardless of its present usefulness. Evolution may have given humans such a program.

By random mutations, some indi-





viduals must have developed a nervous system in which the discovery of novelty stimulates the pleasure centers in the brain. Just as some individuals derive a keener pleasure from sex and others from food, so some must have been born who derived a keener pleasure from learning something new. It is possible that children who were more curious ran more risks in the world. But it is also probable that those human groups that learned to appreciate their curious offspring also protected and rewarded them.

If this is true, we are the descendants of ancestors who recognized the importance of novelty, protected those individuals who enjoyed being creative, and learned from them. Because they had among them individuals who enjoyed exploring and inventing, they were better prepared to face the unpredictable conditions that threatened their survival. We also share an ability to enjoy almost anything we do, provided we can discover or design something new into the doing of it. This is why creativity, no matter where it takes place, is so pleasurable.

But there is another force that motivates us, and it is more primitive

and more powerful than the urge to create: the force of entropy. This, too, is a survival mechanism built into our genes by evolution. It gives us pleasure when we are comfortable, when we relax, when we can get away with feeling good without expending energy. Without this built-in regulator, we could easily exhaust ourselves and not have enough reserves of strength, body fat, or nervous energy to face the unexpected. The conservative urge to curl up comfortably on the sofa is very powerful, so for most people "free time" means a chance to wind down, to park the mind in neutral.

All of us are torn between these two opposite sets of instructions programmed into the brain: the effort imperative on one side and the claims of creativity on the other. In most individuals, entropy seems to be stronger, and they enjoy comfort more than the challenge of discovery. A few are more responsive to the rewards of discovery. Unless enough people are motivated by the enjoyment that comes from confronting challenges, there is no evolution of culture, no progress in thought or feeling. So it is important to understand better what enjoyment consists of and how creativity can produce it.

### What Is Enjoyment?

Certain people devote many hours a week to their avocations, without any rewards of money or fame. Why do they keep doing it? It is clear from talking to them that what keeps them motivated is the quality of the experience they feel at the time. This feeling often involves painful, risky, or difficult efforts that stretch the person's capacity, as well as an ele-

ment of novelty and discovery.

I call this optimal experience *flow*, because many people—artists, athletes, scientists, ordinary working people—have described the feeling in similar words. Flow is an almost effortless yet highly focused state of consciousness. And the descriptions do not vary much by culture, gender, or age.

In interviews, people repeatedly mention certain key elements in their impressions of this enjoyable experience:

- **There are clear goals every step of the way.** In contrast to everyday life on the job or at home, where often there are contradictory demands and our purpose is unsure, in flow we always know what needs to be done. A musician always knows which notes to play next. When a job is enjoyable, it also has clear goals: The surgeon is aware how the inci-

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"Happiness is an expression of the soul in considered actions."

— Aristotle



sion should proceed moment by moment.

Sometimes the creative process begins with the goal of solving a problem assigned by someone else or suggested by the state of the art in one's field. The goal may also emerge as a problem in the domain—a gap in the network of knowledge, a contradiction among the findings, a puzzling result. Here the goal is to restore harmony in the system by reconciling the apparent disparities.

- **There is immediate feedback to one's actions.** In a flow experience we know how well we are doing. The musician hears right away

is just too excruciating to wait until critics or galleries take notice and pass judgment on their canvases. Research scientists drift away from pure science because they cannot tolerate the long cycles of insecurity before reviewers and editors evaluate the results.

How can such people experience flow without feedback? Evidently those individuals who keep doing creative work are those who succeed in internalizing the field's criteria of judgment: They can give feedback to themselves, without having to wait to hear from experts.

- **There is a balance between challenges and skills.** In flow, we

ment leads to frustration; against a much weaker opponent, to boredom. In flow, the players are balanced on the fine line between boredom and anxiety.

- **Action and awareness are merged.** In everyday experience, our minds are often disjointed from what we do. Sitting in class, students may appear to be paying attention to the teacher, but they are actually thinking about lunch or last night's date. In flow, our concentration is focused on what we do. Single-mindedness is required by the close match between challenges and skills, and it is made possible by the clarity of goals and constant availability of feedback.

- **Distractions are excluded from consciousness.** We are aware only of what is relevant here and now. If the musician thinks of her health or tax problems when playing, she is likely to play a wrong note. Flow is the result of intense concentration on the present, which relieves us of the usual fears that cause depression and anxiety in everyday life.

Distractions interrupt flow, and it may take hours to recover the peace of mind one needs to get on with the work. The more ambitious the task, the longer it takes to lose oneself in it, and the easier it is to get distracted. A scientist working on an arcane problem must detach himself from the "normal" world and roam in his mind in a world of disembodied symbols. Many of the peculiarities attributed to creative persons are really just ways to protect the focus of concentration so that they may lose themselves in the creative process.

- **There is no worry of failure.** While in flow, we are too involved to be concerned with failure. Some people describe it as a feeling of control, but actually we are not in control—it's just that failure is not an issue. We know what has to be done, and our skills are potentially adequate to the challenges. If the challenges become too great, a sense of frustration rather than joy creeps in. Creative individuals counter this by developing internal models that al-



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**"I find my joy of living in the fierce and ruthless battles of life, and my pleasure comes from learning something."**

— August Strindberg

whether she has played the right note. The rock climber finds out immediately whether the last move was correct because he hasn't fallen off the mountain.

Maintaining flow in the context of an unresponsive society can be difficult. Many artists give up because it

feel that our abilities are well matched to the opportunities for action. In everyday life, we sometimes feel that the challenges are too high in relation to our skills, or that our potential is greater than the opportunities to express it. Playing tennis or chess against a much better oppo-



## Enhancing Your Creativity—And Happiness

Here are a few suggestions for enhancing your personal creativity and happiness:

- ◆ Try to be surprised by something every day.
- ◆ Try to surprise at least one person every day.
- ◆ Write down each day what surprised you and how you surprised others.
- ◆ When something strikes a spark of interest, follow it.
- ◆ Recognize that if you do anything well it becomes enjoyable.
- ◆ To keep enjoying something, increase its complexity.

- ◆ Make time for reflection and relaxation.
- ◆ Find out what you like and what you hate about life.
- ◆ Start doing more of what you love and less of what you hate.
- ◆ Find a way to express what moves you.
- ◆ Look at problems from as many viewpoints as possible.
- ◆ Produce as many ideas as possible.
- ◆ Have as many different ideas as possible.
- ◆ Try to produce unlikely ideas.

— Csikszentmihalyi

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low them to put problems into a manageable context.

### • Self-consciousness disappears.

In everyday life, we are always monitoring how we appear to other people. Typically this awareness of self is a burden. In flow, we are too involved in what we are doing to care about protecting the ego. Afterwards, we may emerge with a stronger self-concept because we know that we have succeeded in meeting a difficult challenge. Paradoxically, the self expands through acts of self-forgetfulness.

• **The sense of time becomes distorted.** Generally in flow we forget time, and hours may pass by in what seem like a few minutes. Or the opposite happens: A figure skater may report that a quick turn lasting only a second in real time seems to stretch out for much longer. Our sense of how much time passes depends on what we are doing.

The poet Mark Strand gives this account: "You lose your sense of time, you're completely enraptured and you're sort of swayed by the possibilities you see in this work. The idea is to be so *saturated* with it that there's no future or past, it's just an extended present in which you're

making meaning."

• **The activity becomes an end in itself.** Much of what we do is not purely for pleasure, but to accomplish a goal. I may be afraid to use a computer and learn to use it only because my job depends on it. But as my skills increase, I may begin to enjoy using the computer for its own sake as well. In many ways, the secret to happiness is to learn to get flow from almost everything we do, including work and family commitments. If everything is worth doing for its own sake, then there is nothing wasted in life.

### Flow, Happiness, and the Future

What is the relation between flow and happiness? It is tempting to conclude that the two must be the same thing; actually, the connection is more complex. When we are in flow, we do not usually feel happy, because we feel only what is relevant

**"The only way to be happy is to shut yourself up in art, and count everything else as nothing."**

— Gustave Flaubert

to the activity. Happiness is a distraction. It is only after we get out of flow, at the end of a session or in moments of distraction within it, that we might indulge in feeling happy.

The more flow we experience in daily life, the more likely we are to feel happy overall. Unfortunately, many people find the only challenges they can respond to are violence, gambling, random sex, or drugs. Such experiences can be enjoyable, but these episodes of flow do not add up to a sense of satisfaction and happiness over time. Pleasure does not lead to creativity, but soon turns into addiction.

The link between flow and happiness depends on whether the flow-producing activity is complex, whether it leads to new challenges and hence to personal and cultural growth. There are many things that people enjoy: the pleasures of the body, power and fame, material pos-



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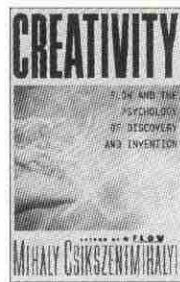
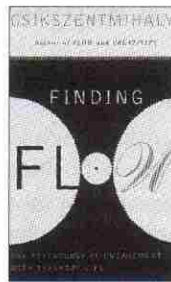
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sessions. Strangely enough, even though the means to obtain it are widely different, the resulting feeling of well-being is very much the same. But that does not mean that all forms of enjoyment are equally worth pursuing.

Twenty-five centuries ago, Plato wrote that the most important task for a society was to teach the young to find pleasure in the right objects. Plato was conservative even for his times, so he had rather definite ideas about what those "right things" should be. We are much too sophisticated today to have strong feelings in the matter. Yet we probably agree that we would feel better if our children learned to enjoy cooperation rather than violence; reading rather than stealing; chess rather than dice; hiking rather than watching television. No matter how relativistic and

tolerant we have become, we still have priorities, and we want young people to share them. Many of us suspect that the next generation will not preserve what we value unless they now enjoy it to some extent.

The problem is that it is easier to find pleasure in things that are easier, in activities like sex and violence that are already programmed into our genes. Hunting, fishing, eating, and mating have privileged places in our nervous system. It is also easy to enjoy making money, discovering new lands, or building elaborate palaces, because these projects fit with survival strategies established long ago in our physiological makeup. It is much more difficult to learn to enjoy doing things that were discovered recently in our evolution—such as manipulating symbolic systems by doing math or com-

posing music—and to learn about the world and ourselves in the process.

Children grow up believing that football players and rock singers must be happy, and they envy high-profile entertainers for what they think must be fabulous, fulfilling lives. Adults, themselves often deluded by infatuation with fatuous models, conspire in the deception. Neither parents nor schools are very effective at teaching the young to find pleasure in the right things. They make serious tasks seem dull and hard and frivolous ones exciting and easy. Schools generally fail to teach how beautiful science and mathematics can be; they teach the routine of literature and history rather than the adventure.

It is in this sense that creative individuals live exemplary lives. They show how joyful and interesting complex symbolic activity can be. With the help of parents and a few visionary teachers, they have become pioneers of culture, models for what men and women of the future will be. It is by following their example that human consciousness will grow beyond the limitations of the past, the programs that genes and cultures have wired into our brains. Perhaps our children, or their children, will feel more joy in writing poetry and solving theorems than in being passively entertained. The lives of creative individuals reassure us that it is possible. □

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