

Chapter 10

Play and Intrinsic Rewards

Mihaly Csikszentmihalyi

I can't abide by the dictum that play is bad and seriousness is laudable. (Bach's) scherzos are not serious, yet he is sincere all the same. Cubs and pups are playing, But could they learn to hunt and live without such games?

Fritz Perls

An analysis of the reported experiences of people involved in various play-forms (i.e., rock-climbing, chess, dance, basketball, music composition) suggests that the qualities which make these activities enjoyable are the following: (a) a person is able to concentrate on a limited stimulus field, (b) in which he or she can use his or her skills to meet clear demands, (c) thereby forgetting his or her own problems, and (d) his or her own separate identity, (e) at the same time obtaining a feeling of control over the environment, (f) which may result in a transcendence of ego-boundaries and consequent psychic integration with metapersonal systems. A formal analysis is carried out to establish what are the characteristics that an activity must have to provide such intrinsically rewarding experiences. The implications of intrinsic rewards for the understanding of human motivation are briefly discussed.

A good place to begin understanding intrinsic rewards is with an analysis of play. Of all patterned human activities, play is supposed to depend least on external incentives. Philosophers from Plato to Sartre have remarked that people are most human, whole, free, and creative when they play (Brown 1959; Sartre 1956; Schiller 1884). An organism at play can use the full range of its genetic potential. While PlayMG, one is relatively free of the tyranny of “needs.” Play is not a simple response to environmental pressures, but a relatively spontaneous act of the organism. And finally, play is enjoyable.

Psychologists rarely deal with these dimensions of play. They usually focus on play as a means to some other end, but not as a process which is important to understand in its own right. Ethological psychologists, for instance, have suggested that play allows a young organism to experiment with its repertoire of behaviors in a nonthreatening setting and, hence, to learn by trial-and-error without paying too high a price for errors (Beach 1945; Bekoff 1972; Eibl-Eibesfeldt 1970;

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Fagen 1974; Jewell and Loizos 1966). Others have pointed out that play allows children to develop a strong ego through the symbolic manipulation of their environment (Erikson 1950; Mead 1934; Piaget 1951); to develop autonomous morality (Piaget 1965); and to be prepared for the requirements of the culture in which they live (Roberts et al. 1959; Roberts and Sutton-Smith 1962, 1966).

Other writers (e.g., Callois 1958; Kenyon 1970; Sutton-Smith 1971) have been interested in isolating specific pleasurable experiences in various game forms. But even their approach implies that play is a means for achieving certain end states, rather than a process with intrinsic motivational rewards of its own.

These perspectives leave out one of the main aspects of play, which is the simple fact that it is enjoyable in itself. Regardless of whether it decreases anxiety or increases competence, play is fun. The question of why play is enjoyable has rarely been asked directly (Csikszentmihalyi and Bennett 1971).

The present research was started in an attempt to answer that question. Why is play intrinsically rewarding? Specially, we wanted to know whether (a) there are common pleasurable experiences that people report across a variety of play activities; (b) it is possible to identify common elements in play activities which produce such experiences; and (c) these experiences are unique to play, or whether they occur in other situations as well.

We started our study by talking to a variety of people who have invested a great deal of time and energy in play activities. We talked to mountain climbers, explorers, marathon swimmers, chess masters, composers of music, modern dancers, and inveterate gamblers. After these pilot talks, a standard interview and questionnaire form was developed and administered to 30 rock climbers, 30 basketball players, 30 modern dancers, 30 male chess players, 25 female chess players, and 30 composers of modern music. Each one of these groups was interviewed by a graduate student who is familiar with the particular activity. In addition, interviews are being collected with listeners of classical music, surgeons, and primary school teachers.

The purpose of this article is to present a theoretical framework for studying intrinsically rewarding experiences which has emerged from reading, the pilot work, and the interviews. A systematic analysis of the interviews will be postponed for a later time; here they will be used only to illustrate the emerging theoretical model.

The Flow Experience

There is a common experiential state which is present in various forms of play, and also under certain conditions in other activities which are not normally thought of as play. For lack of a better term, I will refer to this experience as “flow.” Flow denotes the holistic sensation present when we act with total involvement. It is the kind of feeling after which one nostalgically says: “that was fun,” or “that was enjoyable.” It is the state in which action follows upon action according to an

internal logic which seems to need no conscious intervention on our part. We experience it as a unified flowing from one moment to the next, in which we feel in control of our actions, and in which there is little distinction between self and environment; between stimulus and response; or between past, present, and future.

The salient elements of the flow experience will be described in the next section. Here two points need to be stressed. One is that this experience seems to occur only when a person is actively engaged in some form of clearly specified interaction with the environment. The interaction may be primarily physical, emotional, or intellectual, but in each case the person is able to use some skills in acting on a limited area in his or her environment. The flow experience is therefore dependent on *flow activities*, and one needs to consider the second in order to understand the first. The most typical kind of flow experience is play, and games are the most common forms of play activity. Excellent descriptions of what we here call flow have been given by Murphy (1972) in his book on golf, Herrigel (1953) in regards to Zen archery, Abrahams (1960) on chess, and Unsworth (1969) on rock climbing.

But the second point is that play is not synonymous with flow. Experiential states undistinguishable from those we have called “flow” and that are reported in play are also reported in a great variety of other contexts. What Maslow (1962, 1965, 1971) has called “peak experiences,” and de Charms (1968) has called the “origin” State, share many distinctive features with the process of flow.

The working out of creative ideas also involves analogous experiences. In fact, almost any description of the creative experience (e.g., Dillon 1972; Getzels and Csikszentmihalyi 1974; Ghiselin 1952; Montmasson 1932) gives experiential accounts which are in important respects analogous with those obtained from people at play.

A third source of convergence contains writings on religious experiences. It is quite obvious that certain states of rapture which are usually labelled “religious” share the characteristics of flow with play and creativity. These include almost any account of collective ritual (e.g., Deren 1953; Turner 1969; Worsley 1968); of the practice of Zen, Yoga, and other forms of meditation (e.g. Eliade 1969; Herrigel 1953; Naranjo and Ornstein 1971); or of practically any other form of religious experience (e.g., Laski 1962; Moltman 1972; Rahner 1967).

While flow is often experienced in play, in creativity, or in religious ecstasy, it is not always present in these activities, nor is it limited to them. Later sections will attempt to describe under what conditions one might expect flow to occur in play, creativity, ritual, or other forms of structured experience—and under what conditions one should not expect it.

In fact, part of the problem with this phenomenon is that previously what here is called flow has been identified with the behavioral pattern within which it has been experienced. Thus flow has been described as play, as creativity, as religious ecstasy, etc., and its explanation has been sought in these activities which define different behavioral patterns. It is the task of this article to analyze out the experience of flow as a conceptually *independent process* which might or might not underlie these activities.

Elements of the Flow Experience

Merging Action and Awareness

Perhaps the clearest sign of flow is the experience of merging action and awareness. A person in flow does not operate with a dualistic perspective: one is very aware of one's actions, but not of the awareness itself. A tennis player pays undivided attention to the ball and the opponent, a chess master focuses on the strategy of the game, most states of religious ecstasy are reached by following complex ritual steps, yet for flow to be maintained, one cannot reflect on the act of awareness itself. The moment awareness is split so as to perceive the activity from "outside," the flow is interrupted.

Therefore, flow is difficult to maintain for any length of time without at least momentary interruptions. Typically, a person can maintain a merged awareness with his or her actions for only short periods interspersed with interludes (from the Latin *inter ludes*, "between plays") in which the flow is broken by the actor's adoption of an outside perspective.

These interruptions occur when questions flash through the actor's mind such as "Am I doing well?" or "What am I doing here?" or "Should I be doing this?" When one is in a flow episode (*in ludus* as opposed to *inter ludes*), these questions simply do not come to mind.

Steiner (1972) gives an excellent account of how it feels to get out of the state of flow in chess, and then back into it again:

The bright arcs of relation that weld the pieces into a phalanx, that make one's defense a poison-lipped porcupine shiver into vague filaments. The chords dissolve. The pawn in one's sweating hand withers to mere wood or plastic. A tunnel of inanity yawns, boring and bottomless. As from another world comes the appalling suggestion... that this is, after all, "only a game." If one entertains that annihilating proposition even for an instant, one is done for (It seemed to flash across Boris Spassky's drawn features for a fraction of a second before the sixty-ninth move of the thirteenth game). Normally, the opponent makes his move and in that murderous moment addiction comes again. New lines of force light up in the clearing haze, the hunched intellect straightens up and takes in the sweep of the board, cacophony subsides, and the instruments mesh into unison [p. 94].

For action to merge with awareness to such an extent, the activity must be feasible. Flow seems to occur only when persons face tasks that are within their ability to perform. This is why one experiences flow most often in activities which have clearly established rules for action, such as rituals, games, or participatory art forms like the dance.

Here are a few quotes from our interviews with people engaged in flow-producing activities. Their words illustrate more clearly what the merging of action and awareness means in different cases.

An outstanding chess-player:

The game is a struggle, and the concentration is like breathing- you never think of it. The roof could fall in and if it missed you, you would be unaware of it.

An expert rock climber:

You are so involved in what you are doing, you aren't thinking of yourself as separate from the immediate activity... you don't see yourself as separate from what you are doing...

A dancer describing how it feels when a performance is going well:

Your concentration is very complete. Your mind isn't wandering, you are not thinking of something else; you are totally involved in what you are doing. Your body feels good. You are not aware of any stiffness. Your body is awake all over. No area where you feel blocked or stiff. Your energy is flowing very smoothly. You feel relaxed, comfortable, and energetic.

A basketball player from a state champion high-school team:

The only thing that really goes through my mind is winning the game. ..I really don't have to think, though. When I am playing it just comes to me. It's a good feeling. Everything is working out-working smooth.

And one of his team-mates:

When I get hot in a game. .. Like I said, you don't think about it at all. If you step back and think about why you are so hot all of a sudden you get creamed.

In some activities, the concentration is sustained for incredible lengths of time.

A woman world-champion marathon swimmer has this to say:

For example, I swam in a 24 h race last summer. You dive in at 3 p.m. on Saturday and you finish at 3 p.m. on Sunday, it's 49° in the water and you are not allowed to touch the boat or the shore... I just keep thinking about keeping my stroke efficient. .. and, you know, thinking about the strategy of the race and picking up for a little while and then ease off, things like that.

Q. "So you are concerned for 24 h about the race itself?"

A. "Yeah, every once in a while just because of the long time your mind wanders. Like I'll wake up and say 'Oh, I haven't been thinking about it for a while.'"

Centering of Attention

The merging of action and awareness is made possible by a centering of attention on a limited stimulus field. To insure that people will concentrate on their actions, potentially intruding stimuli must be kept out of attention. Some writers have called this process a "narrowing of consciousness," a "giving up the past and the future (Maslow 1971, pp. 63–65)." One respondent, a university science professor who climbs rocks, phrased it as follows:

When I start on a climb, it is as if my memory input has been cut off. All I can remember is the last 30 s, and all I can think ahead is the next 5 min.

This is what chess experts say:

When the game is exciting, I don't seem to hear nothing- the world seems to be cut off from me and all there's to think about is my game... I am less aware of myself and my problems... at times, I see only the positions. I am aware of spectators only in the beginning, or if they annoy me... If I am busting a much weaker player, I may just think about the events of the day. During a good game, I think over various alternatives to the game-nothing else... Problems are suspended for the duration of the tournament except those that pertain to it. Other people and things seem to have less significance.

The same experience is reported by basketball players:

The court- that's all that matters... Sometimes on court I think of a problem, like fighting with my steady girl, and I think that's nothing compared to the game. You can think about a problem all day but as soon as you get in the game, the hell with it!.. Kids my age, they think a lot... but when you are playing basketball, that's all there is on your mind-just basketball... everything seems to follow right along.

By dancers:

I get a feeling that I don't get anywhere else... I have more confidence in myself than at any other time. Maybe an effort to forget my problems. Dance is like therapy, If I am troubled about something I leave it out the door as I go in (the dance studio).

And by composers- in this case a woman composer of modern music:

I am really quite oblivious to my surroundings after I really get going. I think that the phone could ring, and the doorbell could ring, or the house burn down, or something like that. .. when I start working I really do shut out the world. Once I stop I can let it back in again.

In games, the rules define what the relevant stimuli are, and exclude everything else as irrelevant. But rules alone are not always enough to get a person involved with the game. Hence the structure of games provides motivational elements which will draw the player into play. Perhaps the simplest of these inducements is competition. The addition of a competitive element to a game usually insures the undivided attention of a player who would not be motivated otherwise. When being "beaten" is one of the possible outcomes of an activity, the actor is pressured to attend to it more closely. Another alternative is to add the possibility of material gains. It is usually easier to sustain flow in simple games, such as poker, when gambling is added to the rules. But the payoff is rarely the goal of a gambler. As Dostoevski (1961) clearly observed about his own compulsion, "The main thing is the play itself, I swear that greed for money has nothing to do with it, although heaven knows I am sorely in need of money." Finally there are play activities which rely on physical danger to produce centering of attention, and hence flow. Such is rock climbing, where one is forced to ignore all distracting stimuli by the knowledge that survival is dependent on complete concentration.

The addition of spurious motivational elements to a flow activity (competition, gain, danger), make it also more vulnerable to intrusions from "outside reality." Playing for money may increase concentration on the game, but paradoxically one can also be more easily distracted from play by the fear of losing. A Samurai

swordsman concerned about winning will be beaten by his opponent who is not thus distracted. Ideally, flow is the result of pure involvement, without any consideration about results. In practice, however, most people need some inducement to participate in flow activities, at least at the beginning, before they learn to be sensitive to intrinsic rewards. In the *Bhagavad Gita*, that beautiful hymn to a life of detachment from material rewards, the Lord Krishna says about himself: “I am the cleverness in the gambler’s dice... I am victory and the struggle for victory [10.36].” Flow can occur in the most unlikely contexts; but, to quote the *Gita* again, “they all attain perfection when they find joy in their work [18.45].”

Loss of Ego

Most writers who have described experiences similar to what here is called “flow,” mention an element variously described as “loss of ego,” “self-forgetfulness,” “loss of self-consciousness,” and even “transcendence of individuality” and “fusion with the world” (Maslow 1971, pp. 65–70).

When an activity involves the person completely with its demands for action, “selfish” considerations become irrelevant. The concept of self (Mead 1934) or ego (Freud 1927) has traditionally been that of an intrapsychic mechanism which mediates between the needs of the organism, and the social demands placed upon it.

A primary function of the self is to integrate one person’s actions with that of others, and hence it is a prerequisite for social life (Berger and Luckmann 1967). Activities which allow flow to occur (i.e., games, rituals, art, etc.), however, usually do not require any negotiation. Since they are based on freely accepted rules, the player does not need to use a self to get along in the activity. As long as all the participants follow the same rules, there is no need to negotiate roles. The participants need no self to bargain with about what should or should not be done. As long as the rules are respected, a flow situation is a social system with no deviance. This is possible only in activities in which reality is simplified to the point that is understandable, definable, and manageable. Such is typically the case in religious ritual, artistic performances, and in games.

Self-forgetfulness does *not* mean, however, that in flow a person loses touch with his or her own physical reality. In some flow activities, perhaps in most, one becomes more intensely aware of internal processes. This obviously occurs in yoga and many religious rituals. Climbers report a great increase of kinesthetic sensations, a sudden awareness of ordinarily unconscious muscular movements. Chess players are very aware of the working of their own minds during games. What is usually lost in flow is not the awareness of one’s body or of one’s functions, but only the *self-construct*, the intermediary which one learns to interpose between stimulus and response.

Here are some quite different ways in which rock climbers describe this state:

The task at hand is so demanding and rich in its complexity and pull that the conscious subject is really diminished in intensity. Corollary of that is that all the hang-ups that people have or that I have as an individual person are momentarily obliterated... it's one of the few ways I have found to... live outside my head... One tends to get immersed in what is going on around him, in the rock, in the moves that are involved... search for hand holds... proper position of the body- so involved he might lose the consciousness of his own identity and melt into the rock... It's like when I was talking about things becoming "automatic"... 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. It might be like meditation, like Zen is a concentration... One thing you are after is one-pointedness of mind, the ability to focus your mind to reach something... 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.

The same experience is reported by people involved in creative activities. An outstanding composer has this to say about how he feels when he is writing music:

You yourself are in an ecstatic state to such a point that you feel as though you almost don't exist. I've experienced this time and time again. My hand seems devoid of myself, and I have nothing to do with what is happening. I just sit there watching it in a state of awe and wonderment. And it just flows out by itself.

Or in chess:

Time passes a hundred times faster. In this sense, it resembles the dream state. A whole story can unfold in seconds, it seems. Your body is nonexistent- but actually your heart pumps like mad to supply the brain...

Control of Action and Environment

A person in flow is in control of his actions and of the environment. While involved in the activity, this feeling of control is modified by the "ego-less" state of the actor. Rather than an active awareness of mastery, it is more a condition of not being worried by the possibility of lack of control. But later, in thinking back on the experience, a person will usually feel that for the duration of the flow episode his skills were adequate to meeting environmental demands, and this reflection might become an important component of a positive self-concept.

A dancer expresses well this paradoxical feeling of being in control and being merged with the environment at the same time:

If I have enough space, I am in control. I feel I can radiate an energy into the atmosphere. It's not always necessary that another human being be there to catch that energy. I can dance for walls, I can dance for floors... I don't know if its usually a control of the atmosphere. I become one with the atmosphere.

And another:

A strong relaxation and calmness comes over me. I have no worries of failure. What a powerful and warm feeling it is. I want to expand, hug the world. I feel enormous power to effect something of grace and beauty.

In chess, basketball, and other competitive activities, the feeling of control comes both from one's own performance and from the ability to outperform the opponent. Here are a few chess-players:

I get a tyrannical sense of power. I feel immensely strong, as tho I have the fate of another human in my grasp. I want to kill!... I like getting lost in an external situation and forgetting about personal crap- I like being in control. Although I am not aware of specific things. I have a general feeling of well-being, and that I am in complete control of my world.

In nonflow states, such a feeling of control is difficult to sustain for any length of time. There are too many imponderables. Personal relationships, career obstacles, health problems-not to mention death and taxes-are always to a certain extent beyond control.

Even where the sense of control comes from defeating another person, the player often sees it as a victory over his or her own limitations, rather than over the opponent. A basketball player:

I feel in control. Sure. I've practiced and have a good feeling for the shots I can make... I don't feel in control of the other player-even if he's bad and I know where to beat him. It's me and not him that I'm working on.

And an ace handball player:

Well, I have found myself at times when I have super concentration in a game whereby nothing else exists-nothing exists except the act of participating and swinging the ball.

Q. The other player isn't there?

A. He's got to be there to play the game but I'm not concerned with him. I'm not competing with him at that point. I'm attempting to place the ball in the perfect spot, and it has no bearing on winning or losing...

Flow experiences occur in activities where one can cope, at least theoretically, with all the demands for action. In a chess game, for instance, everything is potentially controllable. A player need never fear that the opponent's move will produce any threats except those allowed by the rules.

The feeling of control and the resulting absence of worry are present even in flow situations where "objectively" the dangers to the actor seem very real. The famous British rock climber, Chris Bonington, describes the experience very well:

At the start of any big climb I feel afraid, dread the discomfort and danger I shall have to undergo. It's like standing on the edge of a cold swimming-pool trying to nerve yourself to take the plunge; yet once in, it's not nearly as bad as you have feared: *in fact it's enjoyable.... Once I start climbing, all my misgivings are forgotten.* The very harshness of the surrounding, the treacherous layer of verglas covering every hold, even the high-pitched whine of falling stones, all help build up the tension and excitement that are ingredients of mountaineering [Unsworth 1969; italics added].

Although the dangers in rock climbing and similar activities are real, they are finite and hence predictable and manageable; a person can work up to mastering them. Practically every climber says that driving a car is more dangerous than the incredible acrobatic feats on the rock; and in a sense it may be true, since in driving, the elements outside one's control are more numerous and dangerous than in climbing. In any case, a sense of control is definitely one of the most important components of the flow experience, whether an "objective" assessment justifies such feeling or not.

Demands for Action and Clear Feedback

Another quality of the experience is that it usually contains coherent, noncontradictory demands for action, and provides clear unambiguous feedback to a person's actions. These components of flow, like the preceding ones, are made possible by limiting awareness to a restricted field of possibilities. In the artificially reduced reality of a flow episode it is clear what is "good" and what is "bad." Goals and means are logically ordered. A person is not expected to do incompatible things, as in real life. He or she knows what the results of various possible actions will be.

A climber describes it as follows:

I think it's one of the few sorts of activities in which you don't feel you have all sorts of different kinds of demands, often conflicting, upon you... You aren't really the master, but are moving with something else. That's part of where the really good feeling comes from. You are moving in harmony with something else, the piece of rock as well as the weather and scenery. You're part of it and thus lose some of the feeling of individual separation.

In this quote, several elements of flow are combined: noncontradictory demands for the activity, the issue of control, and the feeling of egolessness.

But in flow, one does not stop to evaluate the feedback-action and reaction have become so well practiced as to be automatic. The person is too concerned with the experience to reflect on it. Here is the clear account of a basketball player:

I play my best games almost by accident. I go out and play on the court and I can tell if I'm shooting o.k. or if I'm not- so I know if I'm playing good or like shit-but if I'm having a super game I can't tell until after the game... guys make fun of me because I can lose track of the score and I'll ask Russell what the score is and he'll tell me and sometimes it breaks people up-they think "That kid must be real dumb."

In other words, the flow experience differs from awareness in everyday reality because it contains ordered rules which make action and the evaluation of action automatic and hence unproblematic. When contradictory actions are made possible (as for instance when cheating is introduced into a game), the self reappears again to negotiate between the conflicting definitions of what needs to be done, and the flow is interrupted.

Autotelic Nature of Flow

A final characteristic of the flow experience is its “autotelic” nature. In other words, it appears to need no goals or rewards external to itself. Practically every writer who has dealt with play has remarked on the autotelic nature of this activity (e.g., Callois 1958; Huizinga 1950; Piaget 1951, 1965). In *The Gita*, Lord Krishna instructs Arjuna to live his whole life according to this principle: “Let the motive be in the deed, and not in the event. Be not one whose motive for action is the hope of reward [2.47].”

A young poet who is also a seasoned climber, describes the autotelic experience in words that would be difficult to improve on:

The mystique of rock climbing is climbing: you get to the top of the rock glad it’s over but really wish it would go forever. The justification of climbing is climbing like the justification of poetry is writing; you don’t conquer anything except things in yourself... the act of writing justifies poetry. Climbing is the same; recognizing that you are a flow. The purpose of the flow is to keep on flowing, not looking for a peak or utopia but staying in the flow. It is not a moving up but a continuous flowing; you move up only to keep the flow going. There is no possible reason for climbing except the climbing itself; it is a self-communication.

Most of the top women chess players in the United States are still motivated primarily by the experience itself rather than by the extrinsic rewards accruing a champion:

The most rewarding thing is the competition, the satisfaction of pitting your mental prowess against someone else... I’ve won... trophies, and money... but considering expenses of entry fees, chess associations, etc., I’m usually on the losing side financially.

A medical doctor who has participated in many expeditions to the highest mountains on earth:

The world has to look for a star, the whole time... you don’t look at the Milwaukee Bucks, you look at Jabar, which is so wrong. It’s so understandable, it’s so childlike. It seems to me that an expedition should be totally beyond that. If I had my way, all expeditions would go secretly and come back secretly, and no one would ever know. Then, that would have a sort of perfection about it, perhaps, or be more near to perfection.

A famous composer explains why he composes (after a long and hearty laugh at the “inanity of the question”):

One doesn’t do it for money. One does it for, perhaps, the satisfaction it gives. I think the great composers, all the great artists, work for themselves, period. They don’t give a damn for anybody else. They primarily satisfy themselves... If you get any fame out of it, it’s when you are dead and buried, so what the hell’s the good of it... This is what I tell my students. Don’t expect to make money, don’t expect fame or a pat on the back, don’t expect a damn thing. Do it because you love it.

As the quotes show, the various elements of the flow experience are inextricably linked together and dependent on each other. By limiting the stimulus field, a flow activity allows people to concentrate their actions and ignore distractions. As a result, they feel in potential control of the environment. Because the flow activity

has clear and noncontradictory rules, people performing it can temporarily forget their identity and its problems. The result of all these conditions is that one finds the process intrinsically rewarding.

The fact that flow is experienced as autotelic, that is, as intrinsically rewarding, raises this process to a central position in the hierarchy of human behaviors. It becomes important to understand under what circumstances it occurs, what its functional characteristics are, and how it relates to other intrapsychic and social organizations. Therefore, the next section will briefly review the formal characteristics shared by those activities which allow flow to occur.

The Structure of Flow Activities

Some people, some of the time, appear to be able to enter flow simply by directing their awareness so as to limit the stimulus field in a way that allows the merging of action and awareness. But most people rely on external cues for getting into flow states. One might therefore speak of flow activities as those structured systems of action which usually help to produce flow experiences. Although it is possible to flow while engaged in any activity, some situations (i.e., games, art, rituals, etc.), underneath their social historical overlay, appear to be designed almost exclusively so as to provide the experience of flow. It is therefore useful to begin a formal analysis that will answer the question. How do some activities make it possible for the experience of flow to occur?

To answer this question, one might use a somewhat abstract model describing the interaction of a person with his environment. This model, foreshadowed in Csikszentmihalyi and Bennett (1971), is in some interesting respects similar to analogous models described by information theorists (e.g., MacKay 1969) and psychologists who are working with the concept of optimal level of novelty (e.g., Attneave 1959; Berlyne 1960, 1966).

The model (see Fig. 10.1) is based on the axiom that, at any given moment, people are aware of a finite number of opportunities which challenge them to act. At the same time, they are aware also of their skills, that is, of their capacity to cope with the demands imposed by the environment.

When a person is bombarded with demands which he or she feels unable to meet, a state of anxiety ensues. When the demands for action are fewer, but still more than what the person feels capable of handling, the state of experience is one of worry. Flow is experienced when people perceive opportunities for action as being evenly matched by their capabilities. If, however, skills are greater than the opportunities for using them, boredom will follow. And finally, a person with great skills and few opportunities for applying them will pass from the state of boredom again into that of anxiety.

From an empirical point of view, there are some clear limitations to the model outlined in Fig. 10.1. The problem is that whether a person is going to be in flow or not does not depend entirely on the objective nature of the challenges present or on

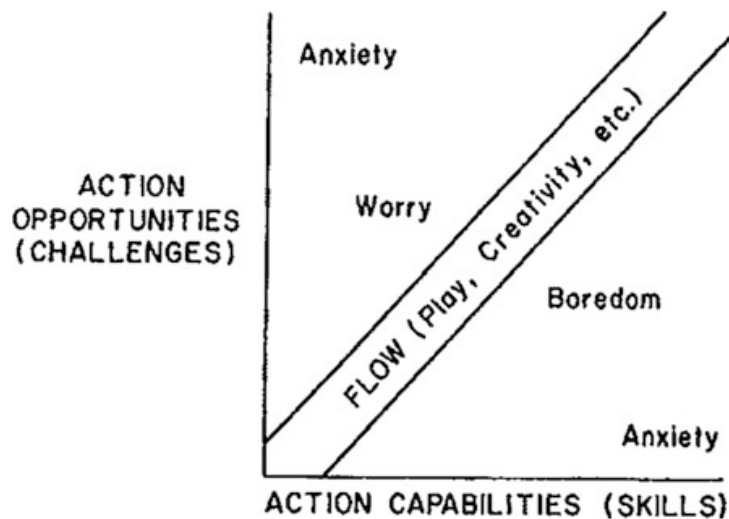


Fig. 10.1 Model of the Flow State. When action opportunities are perceived by the actor to overwhelm his capabilities, the resulting stress is experienced as anxiety. When the ratio of capabilities is higher, the experience is worry. The state of flow is felt when opportunities for action are in balance with the actor's skills. The experience is then autotelic. When skills are greater than opportunities for using than, the State of boredom results, which again fades into anxiety when the ratio becomes too large

the objective level of skills. In fact, whether one is in flow or not depends entirely on one's *perception* of what the challenges and skills are. With the same objective level of action opportunities, a person might feel anxious one moment, bored the next, and in a state of flow right afterward. So it is impossible to say with complete assurance whether a person will be bored or anxious in a given situation.

Before the flow model can be empirically applied, one will have to identify those personality characteristics which make some people tend to underestimate or overestimate the "objective" demands for action in the environment, and which make some people underestimate and others overestimate their own skills. But at present it shall be assumed that for a preliminary understanding of the flow experience it is enough to consider the objective structure of the situation.

An example of what this implies is presented in Fig. 10.2. In rock climbing the essential challenge consists in the difficulties of the rock face (or pitch) which one is about to climb. Each climb, and each move in a climb, can be reliably rated in terms of the objective difficulties it presents. The generally adopted system of ratings ranges from F^1 (a scramble) to F^{11} (the limits of human potential).

A climber's skills can also be rated on the same continuum depending on the difficulty of the hardest climb completed. If the hardest climb a person ever did is rated F^6 , skill level can also be expressed as F^6 . In this case, we have fairly "objective" assessments of both coordinates. Figure 10.2 suggests some of the predictions one might make about the experiential state of climbers, if one knows the rating of both the rock and of the climber.

It should be stressed again that the prediction will be accurate only as long as the individuals involved perceive the difficulties and their own capabilities

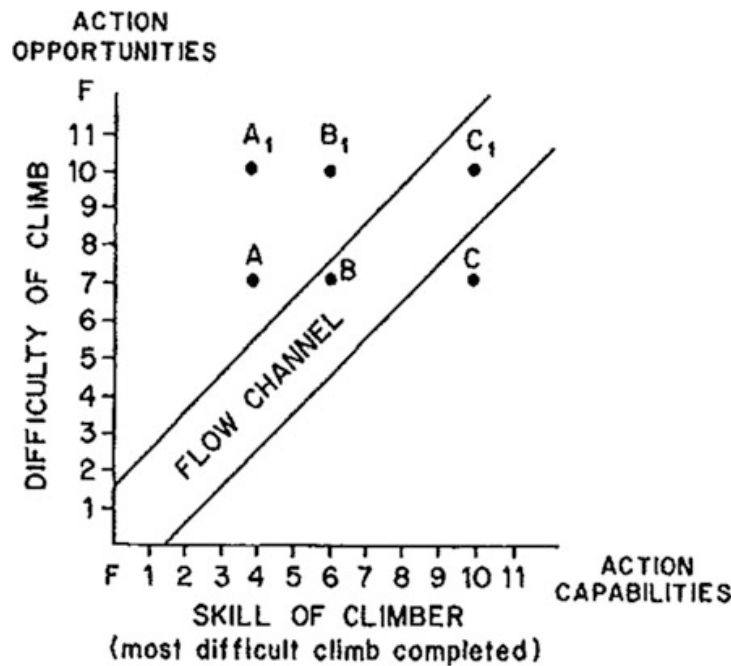


Fig. 10.2 Example of Flow and Nonflow Situations in Rock Climbing. (Legend: A = Rock Climber with F^4 skills, B = rock climber with F^6 skills. C = rock climber with F^{10} skills.) Confronted with a rock face whose difficulty factor is classified F^7 . Climber A will feel worried. Climber C bored, and Climber B will experience flow. On a rock whose difficulty factor was F^{10} . Climber A would feel anxious, Climber B worried, and Climber C in flow

objectively. Although this is never completely the case, it is a useful assumption. For instance, as Fig. 10.2 suggests, F^4 climbers on a F^7 pitch will tend to be worried, and on a F^{10} pitch they will be anxious. Similarly people with F^{10} skills will be bored climbing a F^7 pitch—unless they decide to raise its challenges by adopting some tacit rule such as using only one arm, doing the climb without protection, or focusing their attention on new action possibilities, such as teaching a novice how to climb.

Another type of flow activity is illustrated in Fig. 10.3. The skill of chess players are objectively measured by the United States Chess Federation (USCF) ratings which each person earns as a result of performance in tournaments and championships. Chess, unlike rock climbing, is a competitive activity. So in a chess game the challenges a person faces do not originate in some material obstacle, like the difficulty of a rock face, but solely in the skill of the opponent. A player with a USCF rating of 2,000 when matched against one rated 2,150 will be faced with action opportunities in excess of capabilities of the order of 7.5%. Whether such a discrepancy in the challenge/skill ratio is enough to make the weaker player worried and the stronger one bored is, of course, impossible to tell in advance. Very probably each individual has his or her own threshold for entering and leaving the state of flow. Because of this fact, the bands which delimit the state of flow from those of boredom and worry, in Figs. 10.1 through 4, are obviously arbitrary. For certain activities and for certain persons the band might be

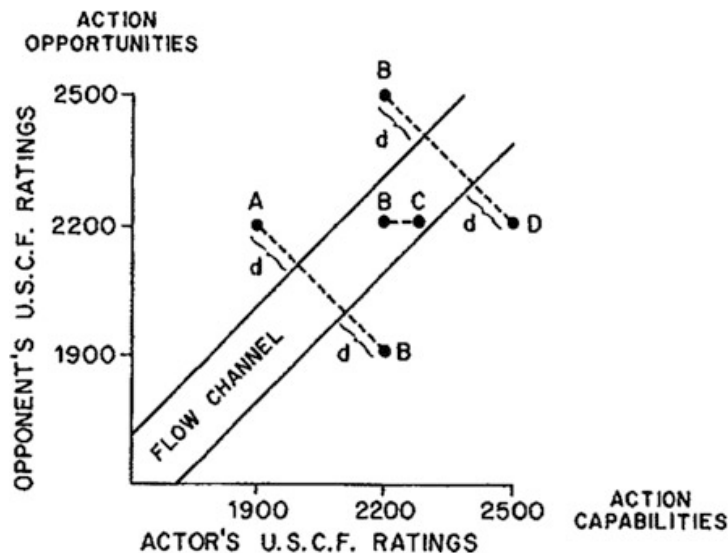


Fig. 10.3 Example of Flow and Nonflow situations in Chess. (Legend: A = Chess expert. B, C = chess masters. D = chess grand master, A–B = match between Players A and B. In a competitive activity, the opponent's skills are the actor's challenges. So, Player A's position on the axis of the ordinates depends on Player B's position on the axis of the abscissa when Players A and B play against each other. If Player A plays the better player B, Player A will perceive his skills to be outweighed by the challenges presented by his opponent. The opposite will happen to Player B. Player A will be in state of worry during most of the game, and Player B will be bored. If Player B plays against the evenly matched Player C, both will experience flow throughout most of the game. If Player B were matched against the better Player D, it would be Player B's turn to be worried. (Note that if the relative superiority in skill of Player D over Player B is of the same magnitude as that of Player B over Player A, then the distance from the flow experience (d) is the same for Players B and A when they play, respectively, against Players D and B. The same is true, of course, for Players D and B, when they play against Players B and A.)

much narrower or much wider; the diagrams only show the direction of relationships, rather than precise limits. The transition points remain to be determined empirically.

A “good” game is one which allows the player infinite perfectibility without boredom. Rock climbing is a good flow activity because it is impossible for any single individual to master all the F¹¹ pitches in the world and because even the same climb can be rendered more challenging by weather conditions or self-imposed handicaps. Athletics in general have theoretically unreachable ceilings, although record-breaking performances are nearing the asymptote. Other flow activities, like art, creativity, and religious ecstasy have also infinite ceilings, and thus allow an indefinite increase in the development of skills or in the ability to organize experience.

This leads to a discussion of Fig. 10.4, It follows from the model that the quality of the flow experience is different depending on how high on the abscissa and the ordinate one is operating. People in a state of worry can return to flow through an almost infinite combination of two basic vector processes: decreasing challenges or increasing skills. If they choose the latter, the resulting flow state will be more complex because it will involve more opportunities and a higher level

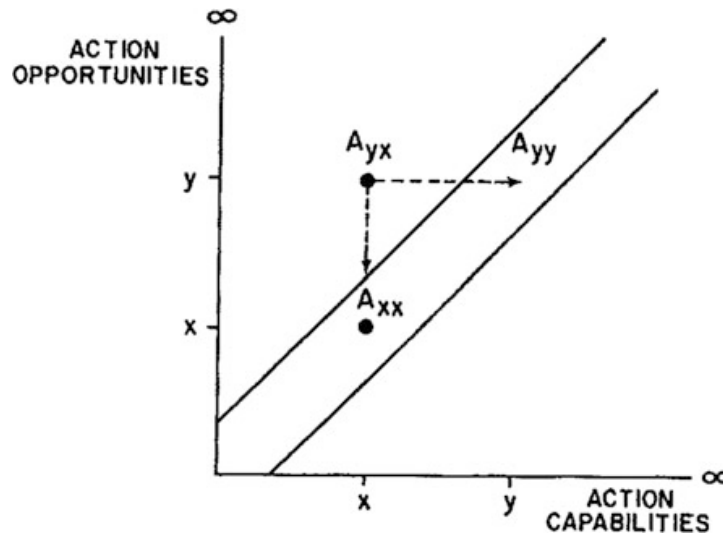


Fig. 10.4 Two Ways of Experiencing Flow. Chess Player A, with x level of skills, playing against someone at level y , will be worried. A person in such a situation can choose a number of ways to reenter the state of flow (e.g., by playing only against opponents of skill level x , or by increasing skills to level y). The opponent can also handicap himself until challenges match Player A's skill level at x . (It is to be noted that flow state A_{yy} is more complex than flow state A_{xx} , since the former involves the use of greater skills in overcoming greater challenges.)

of capabilities. Conversely, if one is bored, one can return to flow either by finding a means to increase environmental challenges or by handicapping oneself and reducing the level of skills. The second choice is, then, less complex than the first.

Summary and Discussion

These considerations suggest that it is possible to order structured activities and situations in terms of whether they are more or less intrinsically rewarding, depending on the intensity of flow they allow a person to experience. When an activity is able to limit the stimulus field so that one can act in it with total concentration, responding to greater challenges with increasing skills, and when it provides clear and unambiguous feedback, then the person will tend to enjoy the activity for its own sake.

This brief outline of the flow model has several interesting implications for human motivation. For instance, is it possible to restructure standard settings for activities (e.g., jobs, schools, neighborhoods, family interactions, and so on) in such a way as to increase the flow experiences they can provide? This question is important for its ecological consequences. As long as we continue to motivate people mainly through extrinsic rewards like money and status, we rely on zero-sum payoffs that result in inequalities as well as the depletion of scarce resources. It is therefore vital to know more about the possible uses and effects of intrinsically rewarding processes.

Another important question is, do all people derive the same rewards from the same activities? The common sense answer is “no.” Personality differences probably result in differential responsiveness to flow activities. It could be perhaps useful to categorize personality in terms of the situations in which one experiences flow. The person who functions fully when playing chess is quite different from one who does so while dancing, or the one who experiences flow in composing music or rock climbing. A “flow profile” might become a dynamic way to describe people for the purposes of finding the best match between their potential and the demands in the environment.

Finally, the flow model has direct implications for social and cultural institutions as well. It seems likely that the effectiveness of political, religious, and cultural movements depends in part on the amount of flow experiences they make possible. For instance, a religious system that fails to provide clearly detailed activities in which the faithful can participate with the understanding that in so doing they are meeting the challenges of life, will not be able to offer- intrinsic rewards to sustain the interest of would-be followers.

A thorough review of all the implications of the flow model cannot be carried out here. The purpose of the present article is to begin a discourse which, it is hoped, will generate some controversy and research into the nature of intrinsically rewarding activities and their far-ranging effects.

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