

Materialism and The Evolution of Consciousness

CONTEXT OF MATERIALISM

To provide a context for the understanding of materialism, it is useful to agree on a conceptual framework broad enough to illuminate all the facets of the issue. For this purpose let me introduce what I call—with only a whiff of grandiosity—a theory of life. It is a theory based on three simple axioms that are themselves self-evident:

1. What we call life is a sequence of events in consciousness—that is, experiences (thoughts, emotions, sensations, etc.)—that take place over the life-span.
2. In order to appear in consciousness, experiences require the allocation of psychic energy, that is, attention. Psychic energy, however, is limited by the information-processing capacity of the brain.
3. Therefore, the quality and content of a person's life depend on what he or she has paid attention to over time.

Arguments justifying these assumptions have been presented in earlier works (e.g., Csikszentmihalyi, 1978, 1990, 1993), so I will not rehearse them here. They are an extension of the insights developed more than 100 years ago by William James (1890), in chapter 11 of his *Principles of Psychology*.

On the basis of these axioms, we may define materialism as the tendency to allocate excessive attention to goals that involve material objects: wanting to own them, consume them, or flaunt possession of them. What is "excessive" is relative to the total amount of attention at the disposal of the person. We all must invest attention in material goals in order to survive, but there is a threshold along the continuum after which any further investment detracts from the ability to experience other aspects of life—such as relationships, aesthetic experiences, or the development of the body and the mind. There is no precise way to assess where that threshold lies, but in recent years useful measures have been developed to assess the relative salience of materialism in the psychic economy (Kasser & Ryan, 1993; Schmuck & Sheldon, 2001; Sheldon & McGregor, 2000). It follows that a materialist is a person whose psychic energy is disproportionately invested in things and their symbolic derivatives—wealth, status, and power based on possessions—and therefore whose life consists mainly of experiences with the material dimension of life.

Why should anyone invest psychic energy in things? To answer that question, we should further distinguish material experience from one that is social, aesthetic, cognitive, or spiritual in character. In other words, just because I am paying attention to a thing, it does not mean that I am attending to its thingness. For instance, in a study of how people relate to meaningful objects in their homes, we found that such objects are cherished because they remind the owner of family members, ancestors, important life events,

personal accomplishments, and values. Such experiences are clearly not primarily material in character (Csikszentmihalyi & Rochberg-Halton, 1981). In fact, arguably it is almost impossible to have a purely material experience. Objects are generally tools; we attend to them in order to achieve some goal or experience beyond the thing itself. So it would seem that materialism is not primarily a function of the materiality of the objects one attends to, but rather of the goals pursued through the interaction with the objects.

4 Although the need to increase control over material objects, or greed, is an ancient human tendency decried as a sin by most world religions, in the past its impact on the nonhuman environment has been slight because people could own at best a few livestock and a few tools. As the anthropologist Marshall Sahlins (1972) has argued, possessions were seen as life-threatening hindrances by hunter-gatherers who needed to move lightly over the landscape in search of nutrition. Even in the relatively prosperous France of the Middle Ages, most people lacked manufactured products such as furniture (LeRoy Ladurie, 1979), and not even kings had access to petroleum or electricity. The human "footprint" on the ecology was therefore light, and the desire for material goods was an understandable and almost benign motivation. As technology has made the mass production of innumerable artifacts possible, and as people learned how to extract energy from everything from water turbines to nuclear reactors, the unbridled need for material possessions is posing a severe threat to our physical survival, as well as to our psychological well-being.

5 More generally, we may call material goals those that aim at the preservation of the organism in its present state—those that satisfy the homeostatic needs of survival and safety, or the "lower order" needs in the Maslovian hierarchy (Csikszentmihalyi, 2000). In contrast, we may speak of transcendent goals when persons use some of their psychic energy to reach outside their own needs and goals and invest in another system, thus becoming a stakeholder in an entity larger than their previous selves. Curiosity, empathy, generosity, responsibility, and charity are some ways that transcendent goals are manifested. The most familiar example is when a person devotes attention not just to selfish interests, or to material goals in general, but to the needs of others, or to the cosmic forces that we assume must rule the universe. Religions cannot exist unless men and women invest some of their psychic energy into transcendent goals; hence most of them warn against attending only to material goals (Belk, 1983; Massimini & Delle Fave, 1991).

6 This ability to transcend self-interest is presumably a recent capacity of consciousness, which itself is the result of the human nervous system having reached a complex level of material organization. However, this explanation is not reductive: On the contrary, the fact that somehow a material system has become able to reach out to other beings, and to see itself as part of a cosmic pattern, is an extraordinary step in evolution. Obviously we are not acting like transcendent beings all of the time or even very often. The centripetal forces

of selfishness are still too strong. Given all the threats from the environment and from other humans, we could not survive long if we did not devote most of our attention to self-preservation. However, if we devoted all our energies only to take care of Number One we would stop growing. The evolution of consciousness requires that we turn psychic energy away from present needs to create ideas, feelings, relationships, and objects that did not exist before.

Whether one is being materialistic cannot be established by simply observing overt behavior. It is possible to approach anything in a materialist way: for example, televangelists stress the cash returns of spirituality, and many people go to the symphony or the museum in order to be seen and admired rather than to be transported to a new level of experience. Conversely it is possible to be involved in an ostensibly materialist activity such as business, and yet pursue primarily transcendent aims. In a recent study of business leaders, we found many whose psychic energy was not absorbed by the making of profits, but instead was focused on goals that benefit larger systems (Csikszentmihalyi, 2003). For instance, the founder of the outdoors equipment-maker Patagonia, Yvon Chouinard, described the goals of his company as follows:

Our mission statement is to use business to find solutions to the environmental crisis. I'm constantly pushing everyone in the company to realize that's why we are in business. That is the reason. We are not in the business to make a profit. We're not in the business to make a product. We're in the business to really change the way other companies operate. (Csikszentmihalyi, 2003, p. 150)

Don Williams, CEO of Trammell-Crow, the commercial real-estate company, had involved his organization in philanthropic activities for years. Recently he decided to leave the leadership position to work part time and remain on the Board while devoting more of his psychic energies directly to transcendent goals:

For me, today, work is a platform for social involvement. . . . My passion today is focused on the comprehensive renewal of our lowest income neighborhoods in Dallas. . . . it is unjust in America for so many of our people to not receive a good education, not to have access to a decent job, and not to have access to a decent home. That is an injustice. By the way, if you don't have an educated workforce coming up, if we have a society that is eroded overwhelmingly with drugs and crime, that's not good for business. Now that's not the model under which I do that, but I think there's a case there that's very good for business to take home. (Csikszentmihalyi, 2003, p. 150)

When a person pursues business in this way, it ceases to be primarily materialistic; whereas a preacher who promises that prayer will make you healthy or rich is using religion for material aims. What counts is the outcome of the psychic energy invested: Is it exhausted within the system as

presently constituted, or is it directed to the growth of the system and to the enhancement of the goals of other systems as well? In the latter case, one would not consider the experience to be materialistic.

FORMATION OF PSYCHOLOGICAL CAPITAL

10 The content of life is limited by the amount of information we can process through attention. In this sense attention, or psychic energy, is our most scarce resource. Like all resources, it can be used for different purposes. It can be "invested" in activities that provide immediate gratification or provide future benefits, or it can be "wasted" doing things that are neither enjoyable nor conducive to personal growth.

11 It is useful to borrow the concept of capital to illustrate a basic distinction in the use of attention. In economics, capital has been defined as "resources withheld from current consumption and allocated instead to future expectations" (Drucker, 1986, p. 27). One may want to restrict the notion of capital to economic resources invested in the expectation of financial profit, but this traditional definition applies only to a small set of a much larger phenomenon.

12 Consider the kind of choice most of us confront every day upon coming home from work: Do I sit down to read a stimulating book (or take a bike ride, play the guitar, volunteer at the hospital), or do I sit down in front of the TV? Most people would agree that watching television would be the more pleasant choice. It would be easier, more relaxing, more hassle-free. Which choice would contribute more to my well-being in the long run? Again, most people would probably say, the first one.

13 However, what is the resource being "consumed" while watching television and "withdrawn from consumption" when involved in the second set of activities? If at the psychological level the most basic resource is attention, we would conclude that it is attention that is being consumed. The state of the organism changes very little while watching television. There is little increase in the complexity of the mind: Few new affective, conative, or cognitive skills are built as a result of viewing (Kubey & Csikszentmihalyi, 2002). By contrast, engaging in hobbies; sports; or artistic, volunteer, and social activities tends to build the complexity of skills in these areas.

14 Although pleasurable activities are easier and more attractive, the attention consumed by them does not provide "greater future returns"—in fact, the returns tend to decrease over time (i.e., we tend to get bored and listless). On the other hand, the effort spent in learning to play a guitar, in learning a new language, in playing a sport, or in helping others does tend to bring greater returns in the future—that is, we get more enjoyment from life as a result of learning new skills and perceiving new opportunities.

15 It is easier to develop psychological capital if others have invested some of their psychic energy in our well-being. Parenting that builds the children's

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15 psychological complexity through the simultaneous presence of support and challenge is one venue (Csikszentmihalyi & Rathunde, 1997; Rathunde, 1996). Another is the "cultural capital" and "social capital" that sociologists emphasize—namely, the resources in knowledge and social support that children inherit from their families (Bourdieu, 1993; Coleman, 1988). The attentional resources invested in parenting become the children's social capital, which makes it easier for them to build their own psychological capital and, in turn, pass it on as social capital to their children.

16 Other obvious sources of social capital are education and work. Unfortunately, many schools and many workplaces do not promote the growth of complexity. But there are exceptions. For instance, Gerald Greenwald, CEO of United Airlines, answered a question about what gave meaning to his work by stressing the rewards of helping his employees build their psychological capital:

For me, it has been clearly the whole process of the development of the person. That is what has brought meaning to my work. As I've seen people grow as individuals, grow in who they're becoming as well as what they're doing, grow as parents, grow as contributors in their community or contributors in their churches or places of worship, grow as healthy citizens, all those things are fulfilling to me and bring meaning to the fact that work results in that. What other activity could I be involved in where I could be involved with as many people where they had an opportunity to produce something, to achieve a result, and in all that, to also develop as a person? (Personal communication, September 29, 1999)

17 Expressions such as these are by no means just nice words uttered in order to look good. Greenwald, like the other businesspeople included in our study, had been nominated because he did actually "walk the walk" on his job. Psychological complexity would advance much more quickly if more business leaders did the same.

CONFLICT BETWEEN PLEASURE AND ENJOYMENT

18 One might ask, if the production of psychological capital improves the quality of life so much, why do we spend so little time on it in relation to the time we spend in activities that consume psychic energy without leaving any real benefits? To answer this question, we must keep in mind that the programs contained in our brains are not harmoniously ordered according to a single plan or design. The Cartesian view of the mind was that of a machine designed for logical reasoning. By contrast, Freud believed that the mind was simply a tool manipulated by libidinal instincts for the purpose of experiencing pleasure. Both views are wrong; first of all, there is no single logic or purpose that accounts for how the mind works (see, e.g., Barkow, Cosmides, & Tooby, 1992; Damasio, 1994). A more accurate metaphor would be that of a

broker who each day conducts hundreds of transactions at the request of clients who want to buy or sell a stock on the market. In this view, the "clients" are the various instructions coded in our brains in the course of evolution, instructions that have facilitated the survival of our ancestors in the past. These instructions are usually independent of each other, and often they tell us to do contradictory things. There is a program that makes us want to be with other people where it is safe, but there is also a program for wanting to be alone where we can be free. We have instructions for sexual promiscuity together with instructions for fidelity. And so on.

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All of the instructions we carry in our genes, and learn from the rules of the culture in which we are born, fall into two broad categories. The first contains programs for hoarding energy: to relax, lay in supplies against all future contingencies, impress our neighbors with our possessions, and be comfortable. The second includes injunctions to expend energy: to explore, to be adventurous, and to be of service to others. Both are necessary for the survival of the species: Without the first, we would exhaust ourselves; without the second, we would stagnate and stop evolving. It would be preferable, perhaps, if these contradictory impulses were better coordinated, or subservient to an overarching logical mind that could activate either one set of programs or the other, as needed. However, that is not the case; usually we act according to one or the other set of instructions "unthinkingly," now listening to the brain we inherited from lizards, now listening to the rules laid down by Moses.

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Thus, evolution has built two contradictory motivations into our nervous system: pleasure, which is the well-being we feel when eating, resting, and procreating; and enjoyment, which is the exhilarating sensation we feel when going beyond the requirements of survival (Csikszentmihalyi, 1993; Ryan & Deci, 2000; Waterman, 1993). Pleasure is a powerful source of motivation, but it does not produce change; it is a conservative force that makes us want to satisfy existing needs and to achieve comfort and relaxation. It is the motivation that makes us look for material resources to improve the quality of life — after all, these are scarce and everyone wants them, so they must be valuable. The concreteness of material goals also makes them seem more real than more complex goals. However, the improvement that money, power, and comfort produce is often simply that of removing momentarily the anxiety we all experience when confronting mortality and finitude (see also chap. 8, this volume). "More stuff" promises security and comfort, even when the benefits are short-lived and we need ever more stuff to regain equanimity in the face of the slings and arrows inherent in living. There is nothing wrong with seeking pleasure in material goals, but individuals for whom it becomes the main reason for living are not going to grow beyond what the genes have programmed them to desire.

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Enjoyment, on the other hand, is not always pleasant, and it can be very stressful at times. A mountain climber may be close to freezing, bitterly

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exhausted, in danger of falling into a bottomless crevasse, yet she would not want to be anywhere else. Sipping a cocktail under a palm tree at the edge of the turquoise ocean is nice, but it just does not compare to the exhilaration she feels on that freezing ridge. At the moment it is experienced, enjoyment may be physically painful and mentally taxing; but because it involves a triumph over the forces of entropy and decay, it nourishes the spirit. Enjoyment builds memories that enrich lives in retrospect, and it gives confidence for facing the future.

Because enjoyable activities usually require more effort than those that provide pleasure, and their rewards are often delayed, all too often the short-term logic is to choose pleasure over enjoyment. For instance, in our studies using the experiential sampling method (Csikszentmihalyi & Larson, 1984; Csikszentmihalyi & Schneider, 2000), we often show individuals the results of the week during which they reported what they were doing and how they felt about it, and we ask: "Look, this is how happy you reported being when the pager signaled while you were watching television. And here is how much more happy you reported being while playing basketball or playing the piano. Can you tell me then why you spent 15 times as many hours last week watching TV than doing active leisure?"

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Confronted with such questions, most people hem and haw, and admit that yes, it's much more enjoyable to do some active form of leisure, but it also requires more energy to get organized for it. Turning on a TV set, by contrast, is very easy and therefore attractive when one feels tired.

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However, it would be a mistake to assume that opting for enjoyment over pleasure is tantamount to delaying gratification. What we find in our studies is that growth-producing, complex activities not only build the ability to enjoy a richer life later, but they are actually enjoyed more in the present compared with more glamorous and heavily advertised pleasurable activities.

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For instance, many entrepreneurs and professionals find that their work provides a sense of adventurous growth that produces enjoyment greater than any money could buy. One of the business leaders we interviewed describes his attitude toward work:

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It's an enormous responsibility and it's an enormous challenge. And it's the most fun job in the world! I love coming to work every morning. I can't wait to get here. I can't wait, because everyday something else is going to happen.

One finds the same enthusiasm for work—although less often—among salaried and even assembly-line workers. Again, the issue is not so much what one does but how one does it. As Studs Terkel (1974) and many others who study work have noted, if one is proud of one's job and tries to do one's best at it, it can become as fun and interesting as that of any executive.

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FLOW: THE EXPERIENCE OF ENJOYMENT

Among successful scientists, artists, physicians, lawyers, and business leaders, one finds that they express the same sort of enthusiasm about their work. Unfortunately, most jobs do not have enough challenges or enough variety to provide that level of enjoyment. There are also many wealthy and well-known professionals or business persons whose work has become routine. Such people then look for enjoyment outside work or to the pleasures provided by material experiences. The more boring and routine everyday life becomes, the more likely that the number of those seeking substitutes for enjoyment will increase. But what does it mean that a person enjoys something?

In the last few decades, studies conducted around the world have shown that whenever people feel a deep sense of enjoyment they describe their experience in very similar terms. Regardless of age, gender, or education, they report very similar mental states. What they actually do at the time is wildly different—they may be meditating, running a race, playing chess, or doing a surgical operation, but what they feel when they really enjoy what they are doing sounds remarkably the same. I have given the name of flow to this common experience, because so many of the people used the analogy of being carried away by an outside force, of moving effortlessly with a current of energy, at the moments of highest enjoyment (Csikszentmihalyi, 1975, 1990, 1996). DEF OF E

Here are three quotes from among the close to 8,000 interviews collected over the years in our laboratory, as well as by colleagues around the world, providing some glimpses of how the flow experience feels. The first is from an expert rock climber who describes his mental state when climbing:

The task at hand is so demanding and rich in its complexity and pull . . . one tends to get immersed in what is going on around him, in the rock, in the moves that are involved . . . search for handholds . . . proper position of the body—so involved he might lose consciousness of his own identity and melt into the rock.

Compare his quote with that from an inner-city African American teenager who plays basketball after school:

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! . . . When you are playing basketball, that's all there is on your mind.

Or with the account from a surgeon describing why his job is so enjoyable:

In good surgery everything you do is essential, every move is excellent and necessary; there is elegance, little blood loss, and a minimum of trauma. . . This is very pleasant, particularly when the group works together in a smooth and efficient manner.

ELEMENTS OF ENJOYMENT

These individuals describe some of the basic elements of flow. The task at hand draws people in with its complexity to such an extent that they become completely involved in it. There is no distinction between thought and action, between self and environment. The important thing is to do each move as well as possible, because even lives may depend on it. Other elements of the experience are a sense of control, a loss of the sense of time, and a good fit between what a person can do and what the opportunities of the situation are. When these conditions are present, we feel a sense of exhilaration that is rare in life.

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However, flow does not require a life-and-death setting to be enjoyable. The most widely reported flow activity the world over is reading a good book, when one gets immersed in the characters and the vicissitudes of their fictional lives to the point of forgetting oneself. Remarkably often flow is experienced when at work, as told by this 76-year-old woman who still farms in the Italian Alps:

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It gives me a great satisfaction to be outdoors, to talk with people, to be with my animals. . . . I talk to everybody--plants, birds, flowers, and animals. Everything in nature keeps you company, you see nature progress each day. You feel clean and happy. Too bad you get tired and have to go home. . . . Even when you have to work a lot it is very beautiful.

This woman describes her work as though it were a romantic idyll. In fact, she gave this account after walking several miles down mountain meadows carrying on her back a bale of hay twice as tall as she is. Nevertheless, by paying attention to the complexity of the natural world around her, she was able to become at one with it and to enjoy the experience. Often the experience is the result of spending time with others in a close interaction. Here is another describing her most precious moments:

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When I'm working with my daughter, when she is discovering something new. A new cookie recipe that she has accomplished, that she has made herself; an artistic work that she has done that she's proud of. Her reading is one thing that she's really into, and we read together. She reads to me, and I read to her, and that's a time when I sort of lose touch with the rest of the world. I'm totally absorbed in what I am doing.

Paying attention to one's daughter, watching her grow and discover new things, and appropriately responding to her changing self requires as much psychic energy as it takes to be a good rock climber, farmer, or surgeon. By getting immersed in such a complex activity, one's own self becomes more complex and stronger.

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MATERIALISM AS A SUBSTITUTE FOR ENJOYMENT

I propose that when a person cannot build a self based on flow, he or she tries to build a self with the help of material goals and material experi-

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ences. These include competitive striving for wealth and power and seeking pleasure in its various forms, such as passive leisure and consumer behavior. The saying that "nature abhors a vacuum" is true of the human psyche as well: During waking hours, we need a constant stream of experiences to keep the mind working properly. In everyday life, people often find themselves in an existential vacuum where no clear need suggesting a specific goal presents itself to consciousness. Normal American teenagers, for instance, when paged at random moments of the day, report 30% of the time that what they are doing is not what they want to do but that they can't think of anything else they would rather be doing instead. Although this pattern is strongest when teenagers are in school, it is also typical of responses at home (Csikszentmihalyi & Schneider, 2000). We have less data from adults, but what there is suggests that they also spend quite a large part of their days in a state where, as far as they are concerned, "there is nothing to do."

This pattern is significant because when a person feels that there is nothing to do, the quality of experience tends to decline. One feels less alert, active, strong, happy, and creative. Self-esteem declines. Contrary to what one might expect, such a negative experiential state is more likely to occur at home during free time than at work, where goals are usually clear and attention is more readily engaged (Csikszentmihalyi & LeFevre, 1989).

This suggests that, in addition to the existential needs described by Maslow (e.g. Maslow, 1968) and others, we also have an experiential need—perhaps peculiar to human beings—to keep consciousness in an organized state, focused on some activity that requires attention. When there is nothing to do, attention starts to turn inward, we begin to ruminate, and, frequently, get depressed. By and large, when we start thinking about ourselves rather than about what we need to accomplish, attention turns to deficits. We are getting old and fat, we are losing our hair, our children are getting in trouble, we have not accomplished much in life. As a result, our mood begins to turn sour (Csikszentmihalyi, 1993, 1996; Csikszentmihalyi & Figurski, 1982). The downward spiral of rumination is interrupted only when attention is again engaged by some need that suggests a goal: preparing dinner, taking the dog for a walk, or if all else fails, watching a show on TV. Yet trying to fill unstructured time with passive entertainment does not work well; the quality of experience while watching TV is barely more positive than that of the slough of despond that awaits the unfocused mind (Kubey & Csikszentmihalyi, 1990).

The experiential need to keep entropy from overwhelming consciousness is responsible for a great deal of material values and consumer behavior. It could be said of shopping, as McLuhan (1964) said of television, that "the medium is the message." In other words, it often does not matter what we are shopping for—the point is to shop for anything, whatever. Shopping is a goal-directed activity and thus fills the experiential vacuum that leads to depression and despair. (See also chaps. 7 & 10, this volume.) That we have to pay, that is, expend the equivalent of psychic energy, for what we acquire lends

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an additional importance to the activity. If we spend money, it must be worthwhile. As Linder (1970) pointed out, the value of the goods we consume in leisure becomes a measure of the value of our time: If in one hour's time I drink \$20 worth of a single-malt Scotch, while listening to a stereo that depreciates at the rate of \$5 an hour, in an apartment whose rent pro-rates at \$10 an hour, then it means that my time is worth at least \$35 an hour—even without counting the cost of clothing, furniture, girlfriend, and so forth that may also be contributing to the value of my time.

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Thus, consuming is one of the ways we respond to the void that pervades consciousness when there is nothing else to do. Shopping and surrounding ourselves with possessions is a relatively easy way to forestall the dread of nonbeing, even though this does not improve the quality of our lives because no psychological capital is accumulated in the process. Of course, reliance on materialist coping mechanisms is encouraged by the huge economic apparatus of advertising and merchandising, which has become so ingrained in our society. A particularly egregious example of such dependence on purchasing as a pabulum for terror was the reaction of so many political leaders after the September 11 attack. The advice one heard most often in the aftermath of that tragedy was to go out and shop. Buying an extra car or refrigerator was supposed to be an act of patriotic defiance against the enemies, an act that confirmed the meaningfulness of our lives.

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Material resources beyond a rather low threshold contribute little to a positive experience, a fact that is by now fairly well established. The first line of evidence concerning the futility of expecting material well-being to produce happiness is based on a variety of surveys conducted over several decades (Csikszentmihalyi, 1999; Diener, 2000; Myers, 2000; see chap. 11, this volume). For instance, although the average income for Americans measured in constant dollars has doubled in the last 40 years, the level of happiness they report has not changed. Winning the lottery creates a small blip of happiness that lasts a few months, after which the lucky winner's happiness returns to what it was before (Brickman, Coates, & Janoff-Bulman, 1978). In a current longitudinal study tracking more than 800 American teenagers through high school and beyond, we find that teenagers from the most affluent suburbs tend to be less happy and have lower self-esteem than those from middle-class communities and even than those living in inner-city slums (Csikszentmihalyi & Schneider, 2000). Several researchers have shown that excessive concern with financial success and material values is associated with lower levels of life satisfaction and self-esteem, presumably because such concerns reflect a sense of "contingent worth" predicated on having rather than being (Kasser & Ryan, 1993; Richins & Dawson, 1992; see also chaps. 2 & 3, this volume).

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Another source of evidence bearing on the effects of material experiences is through a study in which we correlated the happiness that American adults reported experiencing in their free time with the amount of fossil and

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electrical energy consumed by the activity they were doing at the time (Graef, Gianinno, & Csikszentmihalyi, 1981). If a person was reading a magazine when the pager signaled, for example, more energy was expended than if he or she had been reading a book, because producing a magazine (in terms of manufacturing paper, printing, sales, distribution, etc.) requires more BTUs of energy per unit of reading time than it takes to produce a book. Thus, if there was a direct relationship between energy consumption and quality of experience, a person should be happier when reading a magazine than when reading a book. Instead, we found the opposite: a slight but significant negative relationship between the average BTU load of activities and the happiness people experienced while doing them. There was an interesting gender difference: For men, BTUs did not relate to happiness at all, whereas for women the relationship was quite strong in the negative direction. According to the Department of Energy (Graef et al., 1981), about 7% of all the energy consumed in the United States is spent on discretionary leisure activities, from traveling to snowmobiling, from skiing to TV watching. It is important to realize, therefore, that a substantial amount of this energy could be saved without impairing the quality of life, and that quality of life could perhaps be improved by simply choosing "green" leisure activities to fill one's free time.

40 Why is there a negative relationship between energy consumed and happiness? The reason activities with low external physical energy requirements result in greater happiness is that they usually require greater inputs of psychic energy. Having a good conversation makes very little demands on environmental energy, but it demands concentrated attention and mental activity and can be very enjoyable. So in flow-producing activities like reading, gardening, painting, working on crafts, writing poetry, or doing mathematics, people report being happier than when they are passively consuming goods or entertainment. (Csikszentmihalyi, 1996, 1999).

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CONCLUSION: ENJOYMENT AS AN ALTERNATIVE TO MATERIALISM

43 Almost half a century ago, the social philosopher Hannah Arendt warned that advances in technology and the increase in free time were providing us with the opportunity to consume the whole world.

That . . . consumption is no longer restricted to the necessities but, on the contrary, mainly concentrates on the superfluities of life . . . harbors the grave danger that eventually no object of the world will be safe from consumption and annihilation through consumption. (Arendt, 1956, p. 133)

This outcome is made even more likely by people's increasing reliance on material experiences to construct their lives. To the extent that flow in everyday life

is rare and that material success has achieved a hegemony relative to other forms of success, an increasing amount of psychic energy is likely to be devoted to the pursuit of material goals. This then would accelerate the "annihilation through consumption" of the world Arendt (1956) foresaw half a century ago.

44 Looking at the impact of humankind on the planet, one of three scenarios is likely to play out in the coming decades. One is a coming to pass of the danger Arendt and many others have warned us about: a quick deterioration of the planetary environment, an exhaustion of such basic resources as water and fossil fuels, followed by warfare and civil discord for the possession of the dwindling resources. The second possibility is that technology saves us despite our greed. Practical use of renewable energy, new agricultural practices, and desalination of seawater could do the trick. It would be nice if this came to pass, but it would not be wise to bet the farm on it.

45 Finally, there is the possibility of a steady transformation of our lifestyles from one built around material experiences to one rich in transcendent experiences. This may be the hardest and least likely scenario, but in the long run it would be the most promising. If instead of pleasure and the false security of material goals we built our lives around investments of psychic energy in complex activities that provide flow, we would be happier as well as more likely to survive on a planet freed from the threat of terminal depletion.

46 To achieve such a goal, many habits engrained in our lifestyles have to change and many of the institutions that have arisen to supply our habits and then exploit them have to be regulated or transformed (see chaps. 4 & 5, this volume). Parents have to learn that buying a car as a graduation present is not the best way to express love for their children—teaching them to enjoy life is a far better gift. Schools have to realize that learning without joy is useless in the long run. Politics have to focus on the goal held foremost by the Declaration of Independence—the pursuit of happiness—not just by facilitating material goals, but by striving to support the evolution of psychological complexity in its various forms. To achieve all this, however, we need to agree on a new covenant—a set of nonmaterial goals that in the past religions have taught and which science has been unable to formulate thus far.

47 Such changes are not easy for two simple reasons: The genetic instructions we carry are still set to a survival mode in an environment of material scarcity, and the social institutions that have developed over time depend in large part on being able to exploit our material goals. When 2,000 years ago the Christians introduced a new lifestyle into the Roman Empire, one that dispensed with pomp and power, the stakeholders in the old regime realized the danger this posed to the institutions that protected their privileges. Thus, Christians were fed to lions and burned at the stake. How would the World Bank, the Enrons, Savings-and-Loans, and their political allies react if a new worldview based on voluntary simplicity really gained ground? Human nature has not had a chance to change that much in two millennia, and technology can be more potent than lions and stakes.

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