The roles that totalitarian egos play in political systems are examined. Persons who have totalitarian ego biases function more effectively than do those who lack them. The biases are (1) egocentricity, the tendency to perceive events primarily in terms of their relation to oneself; (2) "beneficence," the tendency to perceive oneself selectively as responsible for desired, but not undesired, events; and (3) cognitive conservatism, the tendency to adhere to one's initial judgments even in the face of disconfirming evidence. In contrast with the effectiveness claims that can be made for the totalitarian ego, totalitarian societies usually operate ineffectively. One major reason is that totalitarian societies suppress totalitarian egos, thus reducing people's effectiveness. Additional aspects of the relationship between personal and political systems are (1) the functioning of totalitarian-ego characteristics in the personalities of political leaders; (2) the paradox that effective political leaders may be the ones who have only an illusion of control; and (3) the possibility that our society might evolve toward a form characterized by collective unity of thought, rather than individuality. (RM)
Introduction

"Totalitarian ego" is a label that I have used to characterize a personal organization of knowledge that (i) occurs commonly (at least among North Americans), (ii) exhibits cognitive biases that are characteristic of a totalitarian society's information-control apparatus (such as, for example, the Ministry of Truth in Orwell's 1984), and (iii) is nevertheless associated with normal personality and effective action (Greenwald, 1980).

Bad-sounding though its name is, the totalitarian ego is not an evil force. Rather, it is a collection of traits that many (probably most) of us possess -- and these are traits that we should be pleased to have because they work so well. Nevertheless, the totalitarian ego does consist of cognitive biases that we do not ordinarily regard as admirable characteristics.

The first section of this paper describes the cognitive biases of the normal ego, and explains their functions. Next, the focus turns to totalitarian societies -- which appear not to work nearly so well as the totalitarian ego does. I shall argue that an important part of the explanation for the failure of totalitarian political systems is that they suppress totalitarian egos, and therefore reduce the effectiveness of persons in society. (That is why the title of this talk refers to totalitarian egos versus totalitarian societies.) The remainder of the paper considers three further aspects of the relation between personal and political systems -- (i) the functioning of totalitarian-ego characteristics in the personalities of political leaders, (ii) the paradox that effective political leaders may be ones who have only an illusion of control over their followers, but not actual control, and (iii) the possibility that our contemporary society might evolve toward a form characterized by collective unity of thought, rather than individuality.

Before proceeding, however, a comment on my occasionally strange use of "totalitarian" is needed. (Writing about the totalitarian ego has made it clear that one way to get people's attention is to alter the usage of words.) Political scientists' definitions of "totalitarian" vary somewhat, but usually emphasize the role of coercive force and terror in achieving collective uniformity of both thought and action within a society. The most obvious examples of totalitarian societies have been Stalin's Russia, Hitler's Germany, and the fictional society of Orwell's 1984. (Present day Russia is so much more liberal than Stalin's Russia that "totalitarian" no longer seems an appropriate label. Khomeini's Iran may be a closer present approximation.)

The description of ego as "totalitarian" is based on evidence that the normal ego uses self-aggrandizing tactics that are usually associated only
with totalitarian propaganda systems. However, ego has nothing that corresponds to the totalitarian society's use of coercive force or terror. So, reference to ego as "totalitarian" is something of a misuse, but a deliberate one -- intended both to shock us into recognizing that ego's normal information processing does have some of the properties of a totalitarian propaganda apparatus, and to oblige us to try to understand why these traits work well for ego, despite their disrepute in the context of a totalitarian society.

**TOTALITARIAN EGOS AND TOTALITARIAN SOCIETIES**

The Totalitarian Ego: Three Cognitive Biases

Recent research has been remarkably consistent in showing that many adults who are average, normal, and effective in their functioning exhibit three cognitive biases that resemble a totalitarian society's thought control and propaganda devices. These biases are (i) *egocentricity*, the tendency to perceive events primarily in terms of their relation to oneself; (ii) *beneffectance*, a term that designates the tendency to perceive oneself selectively as responsible for desired, but not undesired, events; and (iii) *cognitive conservatism*, the tendency to adhere to one's initial judgments even in the face of disconfirming evidence. (See Greenwald, 1980, and Greenwald & Pratkanis, 1984, for reviews of the evidence summarized below.)

**Egocentricity.** Egocentricity is observable in the tendency of ordinary judgment and memory to be organized around one's self. We tend to observe and remember the past as if it were a drama in which one's self is the leading player. We inflate the extent to which we see ourselves as the cause of others' behavior. Our recall of events is typically much better for events that are perceived as self-related than for events that are perceived as unrelated to self. One especially interesting component of the egocentricity bias is the illusion of control, which takes the form of seeing ourselves as able to influence outcomes that are, objectively, determined by chance. For example, we may believe that lottery numbers that we have personally selected have a sufficiently great probability of winning that we would not sell them for many times the (already-inflated) price that we bought them for. (This particular illusion of control has been put to great practical value by states that run lotteries.) Habitual slot machine players are exercising their illusions of control in a different way, believing that their particular method of manipulating the one-armed bandit can extract more money than they put in.

**Beneffectance.** This fabricated word designates a phenomenon that appeared so frequently in research as to demand its own name -- the tendency for people to perceive themselves as selectively causing desired, but not undesired, effects. Beneffectance is a compound made up of *beneficence* (doing good) and *effectance*, which Robert White (1959) coined as the name for a hypothesized motive to act competently. Beneffectance, therefore means "competently achieving good effects." (This four-syllable word replaces four phrases that averaged 8 syllables apiece -- "ego-defensive attribution," "self-serving attribution," "egocentric attribution," and "attributional egotism.")

A readily observed example of beneffectance is in the behavior of
students when they receive examination grades. Why is it that only those who have done poorly criticize the exam as having been ineptly designed? The high scorers, who should be much better able to spot flaws in the exam, tend to be quite satisfied with the exam as a test of their abilities and knowledge. And why is the instructor much more inclined to believe the high-scoring students who like the exam than the low-scoring ones who think it is no good? All these reactions reflect a very normal tendency to take credit for success, and to deny responsibility for failure.

Another place to find examples of beneffectance, particularly its component of denying responsibility for undesired consequences, is on the highway. Why is it that, when you are driving and have a near collision with another car, your first reaction is to curse at the other driver's age, gender, eyesight, legitimacy of birth, etc. Why is it that the other driver is doing exactly the same thing? And why is it that drivers, in describing their accidents, can manage to construct blame-displacing stories like the following one (which comes from a collection of police accident reports)?

As I approached the intersection, a sign suddenly appeared in a place where a stop sign had never appeared before. I was unable to stop in time to avoid an accident.

Or this one:

The telephone pole was approaching. I was attempting to swerve out of its way when it struck my front end.

Cognitive conservatism. Cognitive conservatism is the tendency to make maximal use of one's existing knowledge by (re-)using it whenever remotely applicable. This bias is a very understandable form of cognitive efficiency. However, some manifestations of the cognitive conservatism bias seem to be quite counterproductive -- such as the tendency to persevere in one's judgments in the face of conflicting evidence, and the tendency to let expectations bias one's gathering of evidence relevant to a hypothesis. An example of the conservatism bias of ignoring evidence that conflicts with one's judgments is the primacy effect in judgment. This effect takes the form of people persevering in judgments that are based on early data, even when subsequent data strongly conflict. Another illustration is the virtually universal tendency to resist change of one's political opinions. Examples of conservatism biases in gathering evidence include (i) selective search of one's memory to retrieve information that supports one's stated opinions, (ii) interviewers' design of questions that work selectively to elicit expected answers from respondents, and (iii) the perseverance of researchers through many experimental failures, until they manage, eventually, to obtain data that confirm their preferred theories.

The egocentricity, beneffectance, and conservatism biases make for a remarkably unattractive portrait of the normal ego. They refer to ego's engagement in (among other things) overestimating its causal role in others' behavior, selectively using memory to justify its controversial opinions, claiming credit for accidental good fortune while denying blame for personal failures, and -- in general -- constructing a distorted, inflated self-image. This portrait cannot help but remind us of the fabrications and revisions of history that are prototypically associated with a totalitarian propaganda apparatus, such as the Ministry of Truth in Orwell's (1949) 1984.
That similarity was the main reason for using the label "totalitarian" to characterize ego. An important second reason for using that label was its provocative value. Why should properties that seem so unattractive when they occur in managing the information of a political system nevertheless characterize a normal organization of personal knowledge? The answer is, somewhat surprisingly, that the three cognitive biases make for a remarkably effective personal knowledge system. This claim that ego's cognitive biases function effectively is not a claim that the totalitarian ego is an optimal knowledge system -- just that it is an effective one.

Functions of the Three Biases

**Egocentricity.** Egocentricity provides a focus for the organization of personal knowledge. Much of our knowledge is organized in relation to the self -- what I did or what happened to me in various settings, what my possessions and attributes are, and how people and things are related to me. This egocentric character of knowledge not only allows self to function as an automatically available point of reference for new items of knowledge -- it also serves as the chief point of relationship among the various items of one's knowledge. This interrelating function may be essential in maintaining an organization of knowledge in that readily permits events encountered at different times to be related to one another. It is possible to imagine that, if our memories did not consistently impose an egocentricity bias, the coherence that normally characterizes our experience of the world would be missing.

**Cognitive conservatism.** Cognitive conservatism likely serves a maintenance function in the organization of knowledge -- helping to assure that access to the accumulated knowledge of past experience is preserved. To appreciate this function of conservatism, consider the value of maintaining consistency of functioning in a library's catalog system -- the system that functions to locate books that have been acquired over many years. Because new domains of scholarship are always cropping up, and new scholarship changes the relationships among existing domains of knowledge, it would easily be possible to improve a library's catalog system every 10 years or so, incorporating such changes in the accepted organization of scholarly knowledge. However, every time the catalog system is changed, it would become difficult or impossible to locate books that were more than 10 years old -- that is, unless all of the books received prior to the change were recataloged and reshelved to be consistent with the revised catalog system. Therefore, conserving the old catalog system -- even as it is growing more and more outdated -- can be an efficient way of preserving access to the accumulated knowledge of prior years. Similarly, the conservatism of ego -- which resists changes in the way it catalogs experienced events into cognitive categories -- is likely to be an efficient way of preserving access to one's older memories.

**Beneficence.** Beneficence can contribute to personal effectiveness by supporting a willingness both to undertake moderately risky actions, and to persevere in courses of action that do not succeed immediately. Without the willingness to undertake risk or to persevere, a person of even great ability cannot achieve much. Recall that Thomas A. Edison's recipe for success was "one percent inspiration and 99 percent perspiration." And Edison was a perfect example of how effective the trait of perseverance could be. He invented the light bulb by spending two years applying
electric current to every substance that he could manage to shape into a filament between two electrodes. At last, he found that a carbonized thread would illuminate without immediately burning itself up. This sort of effective perseverance can come only from a person who is convinced, perhaps unreasonably, of the likelihood of eventual success -- in other words, a person who has the beneffectance bias.

A reaction that is frequently elicited by the description of the totalitarian ego pattern is, approximately, "Yes, but wouldn't it be even better for ego to have accurate, rather than biased, self-perceptions?" In attempting to answer this question, one soon discovers that there is a substantial minority of people who lack one of the biases -- namely, beneffectance. Somewhat disturbingly, these less biased people also function less effectively than do those who display beneffectance. These less biased people are ones who, on the basis of their scores on personality inventories, are classified either as depressive or as low in self-esteem. One might have imagined that depressed or low self-esteem people would show a bias in the form of thinking too little of themselves. However, data obtained by several researchers have indicated that, rather than having deflated self-images, the self-images of depressives tend to be relatively accurate. That is, depressives tend to rate themselves no more nor less favorably than others rate them, and they tend to perceive fairly accurately their control over success and failure. In contrast, most of the rest of us are typically self-inflating, rating ourselves more favorably than others rate us, and overestimating our control over outcomes.

If we omit studies of mental patients -- such as amnesics, multiple personalities, and schizophrenics -- there is not much research on people who lack the egocentricity and conservativism biases. The difficulty of identifying such groups within normal populations may indicate, perhaps, that egocentricity and conservativism are even more crucial to normal functioning than is beneffectance.

Despite the various reasons for concluding that persons who have the totalitarian ego biases function more effectively than do those who lack them, there is still much that we have to learn about the functioning of these biases. It seems very likely, for example, that extreme levels of the biases are not desirable. As a case in point, an extreme level of the egocentricity bias characterizes people who are judged to be paranoid. Therefore, rather than simply concluding that the totalitarian ego biases are effective, one might seek to identify their optimal levels.

Problems of Totalitarian Societies

In contrast with the effectiveness claims that can be made for the totalitarian ego, it appears that totalitarian societies operate rather ineffectively. They utilize their human resources unproductively through extensive police activities of maintaining surveillance, restricting movements of citizens, and staffing prisons for those under political suspicion. Their use of coercive force and terror, even if effective in eliciting conformity, is a dubious method for obtaining productivity. And the contributions of valuable citizens who have not defected, and not been imprisoned or executed may nevertheless be dissipated by their diverting energy to covert resistance.
Compounding the problem of inefficient use of domestic human resources is the tendency of totalitarian regimes to elicit international opposition. International tension often works in the totalitarian leader's interests, by providing a national security justification for instituting repressive, coercive domestic policies. But, at the same time, waging war and spending money on defense further divert resources from productive pursuits.

**The Totalitarian Ego in a Totalitarian Society**

The foregoing observations about how a totalitarian society can stifle its own economy are tangential to my present purpose of considering the totalitarian society from a psychological perspective. In psychological terms, there is a major respect in which a totalitarian regime pulls the rug out from under itself. It does this by establishing a political system in which the person-level totalitarian ego cannot survive.

The totalitarian society's efforts at thought control -- its efforts to limit unshared or private thoughts, and to make society into a collective mind rather than a collection of minds -- directly oppose the functioning of person-level totalitarian egos. The totalitarian ego's stock in trade consists precisely of private, unshared thoughts -- thoughts that are egocentric or self-centered, rather than being centered on the state or its personification in a Hitler, a Stalin, or a Big Brother.

If private thought is not tolerated by the totalitarian society, then neither is the totalitarian ego. Accordingly, if the totalitarian society is to function effectively, it must support some alternate form of knowledge organization at the person level -- one that can be as effective as the totalitarian ego. Further, this alternate knowledge organization must be based on collective, not private, knowledge. Interestingly, there are many living models of societies that function effectively, and do so almost entirely on collective knowledge. These are the societies of bees, ants, and other social insects. However, the collective knowledge of insect societies is genetically encoded, and their means of reproduction assures great genetic uniformity within their social groups. Human evolution has branched very far away from being easily capable of the sort of knowledge uniformity that characterizes the social insects.

All in all, totalitarianism at the societal level appears to be quite self-defeating. A totalitarian society may begin its existence in a wave of enthusiasm that is focused in a highly cohesive group that has achieved enough power to assume national control. However, after having achieved governance, this group may very soon turn its efforts to bringing all citizens into the collective fold -- in other words, it may attempt to achieve a government not just of plurality or majority, but of totality. Toward that end, political dissenters are identified and the use of coercive force to achieve conformity begins. Unfortunately, coercion does not achieve its goals fully, and the leader concludes that even more coercive force must be applied.

In this manner, the totalitarian society diverts its resources increasingly away from consumer production, extends its police surveillance, expands its imprisonment of suspected dissidents, and ultimately unleashes a
reign of terror that is designed to drive its citizens under the collective umbrella. And, all the while, to the extent that its policies are successful in suppressing private mental life, the totalitarian society is undercutting the individual psychological basis for effective citizen participation. As the cost of supporting the police state and maintaining international hostilities falls on a decreasingly productive citizenry, the totalitarian society can only avoid collapse by becoming a military parasite on more productive economies. Of course, the economies of invaded countries are unlikely to survive this parasitism very long, so the totalitarian society's self-destruction is inevitable. One can hardly be pleased with this conclusion, however. It is difficult just to wait for the totalitarian system's collapse, when it may bring down much more than itself in the course of its self-destruction.

The conflict between totalitarian egos and totalitarian societies may explain why a great many people -- in particular, people with totalitarian egos -- find societal totalitarianism to be quite objectionable. The totalitarian ego may recognize its natural enemy in the totalitarian society.

Another explanation for the unattractiveness of totalitarian societies comes from the fact that we don't ordinarily recognize the totalitarian ego biases in ourselves. Rather -- and consistent with the totalitarian ego's positively biased self-image -- we have the illusion of ourselves as unbiased -- that is, as not having the traits of being unduly egocentric, self-inflating, or resistant to new information. For similar reasons, we do not readily recognize the extent to which totalitarian-like propaganda tactics are used by organizations to which belong, or by governments to which we are loyal. However, these same biases can be readily identified in the practices of effective non-totalitarian leaders. This raises the next topic, which is a consideration of differences between leaders who effectively use cognitive biases and ones who do not. This will give some insight into both the nature of effective leadership and the self-destructive flaw of totalitarian leadership.

**EFFECTIVE LEADERSHIP IN THE CONTEXT OF THE TOTALITARIAN EGO**

One of the striking and significant properties of the totalitarian ego is that it operates effectively on the basis of illusion. And, perhaps, one explanation of the failure of totalitarian societies is that their leaders have not been content with illusion. Totalitarian leaders have sought actual control over their citizens. Had they been content with just the illusion of control they might have been much more successful, just as ego appears to be successful with its illusion of control.

To appreciate this point, consider again the illusions of the totalitarian ego. They include the egocentric illusion of control and the beneficent illusion of ability to achieve desired outcomes. These illusions support effective action and, accordingly, they prove to be self-fulfilling. In other words, the presence of these illusions aids in actually achieving desired outcomes, which implies that the totalitarian ego achieves actual control, not just the illusion of control. Nevertheless, the person typically perceives more control and more ability to achieve desired ends than an objective accounting by others would reveal and, so,
these perceptions are justifiably classed as illusions.

Myth of the Rigidly Controlling Leader

There is a widespread belief that many effective leaders owe their success to maintaining tight control over their followers. Nowhere is the belief in the value of such authoritarian control stronger than in team athletics, where some of the most famous coaches and managers are perceived as demanding unquestioning conformity and exercising tight control over their players. Perhaps, however, their effectiveness is due more to an illusion of their control, rather than to actual control. After all, for reasons that have just been considered in the context of totalitarian societies, it seems unlikely that actual rigid control could maximize either individual or group performance.

Consider the alternate interpretation that the effective coach’s tight control is only an illusion. In proclaiming or implying tough policies, the coach projects an image of strength and an expectation of success. These charismatic properties, which correspond to the egocentric illusion of control and the beneficence bias, can motivate players to put forth great effort. The coach can then act effectively by letting team members exercise substantial independence in maximizing their own performance, rather than by supervising them very closely. The illusion of control becomes self-fulfilling because the team members are, indeed, acting as the coach wants them to — that is, they are practicing long hours and they are performing effectively. The players and coach may share collectively in this illusion — that is, perceiving that the players are working hard for fear of the consequences of not doing so. But, since the illusion itself has succeeded in producing a cohesive, effective unit, the implicitly threatened consequences need never be invoked.

Consider, on the other hand, a wise leader who recognizes the value of independent initiative toward group goals and, accordingly, explicitly encourages subordinates to function independently. This leader may succeed less well, because of a failure to provide the confidence and cohesion that group members need to justify their effort. Similarly, the truly rigidly controlling leader — the one who actually implements coercive controls rather than being content with the illusion of control — is likely to suppress the initiative of followers that is needed for them to maximize performance. The point here is similar to ones that have been made by political scientists and organizational psychologists in developing the concepts of charismatic leadership (Bess, 1981; House, 1977; Tucker, 1968) and transformational leadership (Burns, 1978). The present argument may deviate from these prior ones only in stressing the role of illusion in this type of effective leadership.

The conclusion that the illusion of control is an effective leadership strategy may well apply to the highest levels of leadership, such as the U.S. Presidency. In the arena of economic policy, for example, the president can create an illusion of control by proclaiming new policies, announcing confident projections of their favorable impact, and seeing to it that prominent opinion leaders support these claims. If the president is sufficiently charismatic, these strategies may succeed in establishing widespread confidence in the policies. However, given that economic experts
can typically be found to make diametrically opposed predictions for the impact of virtually any economic policy, the president's projection of favorable results must be regarded as containing a healthy component of illusion. Nevertheless, if this illusion succeeds in inspiring effective local actions -- such as in reducing worker absenteeism or in increasing investment in production or developmental research -- the favorable prophecy may be confirmed simply as the consequence of its impact on followers' illusions.

Perhaps, then, an effective political system can be modeled on the totalitarian ego. Importantly, however, it would not be a totalitarian system. Rather, it would be one for which -- as in the case of the totalitarian ego -- the totalitarian characteristics are only part of a surface illusion, not part of the underlying actuality.

**Totalitarian Egos in the Personalities of Political Leaders**

There is a delicate boundary between leadership based on the illusion of control and leadership based on coercive control. A moment of truth -- which might better be called a moment of illusion -- occurs when the leader has the opportunity to deal with some flagrant insubordination or deviation from societal norms. A powerful leader might attempt to make good on the illusion of control by responding with coercive discipline and by increasing vigilance against further deviations. However, the hypothesis that effective leadership draws its strength from illusion implies that the forceful response is a mistake. The leader might be better advised to use charismatic skills to attract the errant sheep back to the fold and, failing that, just be content to let the nonconformist wander away. Use of surveillance accompanied by harsh force, even though it should bolster perceptions of the leader's strength, may not rehabilitate the deviant and, worse, is likely to undermine the effectively positive basis for other members' attachment to the group.

The course of surveillance and harsh discipline is one that has been followed by many powerful political leaders, perhaps none more so than Stalin and Hitler. We may be inclined to regard Stalin and Hitler as crazy people, of a sort who could not reach political leadership in a democracy. However, another way to regard them is as people who, possessing the totalitarian ego characteristics to an extreme degree, arrived at a position of power in which they were confronted with the moment of truth -- the moment at which they had the opportunity to convert charismatic illusion of control into control based on surveillance and force.

In a free society, totalitarian egos of such dangerously large proportions cannot be counted on to find their way to harmless positions. Quite the contrary, they are likely to be found occupying positions of leadership -- for example, in the ranks of athletic coaches, business executives, film stars, and political leaders. It is the individual effectiveness of people who have strong, totalitarian egos that brings them to these positions of leadership.

United States presidents have often been people who possessed the totalitarian ego characteristics strongly. Further, anyone who assumes the position of president must be seen as having some potential to move
society in a totalitarian direction — that is, to respond to the moment of truth by opting for coercive force. The recent history of U.S. presidencies certainly illustrates this point. We have had one president who had a long list of enemies, and more than one who engaged in illegal and widespread surveillance. It is only in the wake of a president whose excessive extensions of power were publicly exposed that we have seen some presidents adopting lower executive profiles.

**Length of the Chief Executive’s Term of Office**

Given the potential for the chief executive to extend power, the United States’s Constitutional limit on the term of President seems very desirable. Not only may knowledge of this limit dampen a president’s enthusiasm for extending power but, also, the limited term may prevent an attempted extension of power from reaching troublesome proportions. Nevertheless, the possibility that even an 8-year limit is too long was shown by the rapidity with which Richard Nixon extended power during his first four years in office, and the resulting instability with which his term abruptly ended. Although the U.S. is as well protected as any nation against the possibility that a president will become a dictator, still this ordinarily unthinkable scenario is conceivable in the event of a military crisis. It is unthinkable that a U.S. President might either provoke or take advantage of an international crisis to justify the imposition of widespread surveillance and the imprisonment of suspected dissidents? (Indeed, just these things happened under two U.S. presidents during the period of the war in Vietnam.)

**COLLECTIVE COGNITIVE HOMONEITY WITHOUT COERCIVE FORCE**

1. **Collective Ethos**

Consider now the possibility that societies might function with a collective unity of thought and purpose, but without needing coercive force to achieve that unity. There are, in fact, many examples of small, self-contained groups that have operated in this fashion — for periods of time ranging from a few years or less (such as military combat units and scientific research teams), to a few decades (such as families), to a few centuries or longer (such as religious sects and many primitive societies). Such unified collectives also participated early in the establishment of Russian communism, German national socialism, and the current Shyite Muslim state of Iran. However, each of these latter collectives turned rapidly to surveillance and to coercive force as they sought to extend dominion outside their voluntarily assembled, highly convinced, and highly cohesive group of adherents.

Although one can find many examples of relatively small groups that have operated collectively with great unity of thought, it seems unlikely that societies having millions of citizens could function effectively in such single-minded fashion. Further, when groups do operate effectively with a collective ethos, it is typically the case either that membership in the group is voluntary, or that dissenters are encouraged or obliged to leave. That is, the chief social sanction for these groups is ostracism, which is much more effective than torture or imprisonment in achieving societal homogeneity. The possibility that ostracism can support cognitive
unity within a society is reminiscent of the slogan that was so widely heard in the United States during the Vietnam War -- "America: Love it or leave it." Perhaps large societies with great unity of purpose might be formed in a world that permitted unrestricted movement across societal boundaries. However, a world consisting of countries engaged in free market competition for citizens is very remote, and seems hardly worth speculating about.

2. Computer-Centered Society

Instead, consider another scenario for the evolution toward a cognitively homogeneous society. This alternate script is based on the proliferation (or perhaps I should say infiltration) of computers, which are now widely infesting the industrialized world.

We are inclined to regard computers as our servants, and there is good justification for seeing them as such. But servants sometimes become masters, and there is evidence that should prompt us to consider seriously that computers might soon become our masters.

Some of this evidence consists of indications that, with human help, computers have recently evolved in the direction of developing their own egos. The forerunner of the computer ego is the set of programs, or software, that is referred to as the operating system.

Once upon a time, computers had no operating systems, just user-created programs. A bit later, they had multiple, small-scope operating systems, each of which could be invoked for the operations for which it was suited. Now we find increasingly that computers have single coherent operating systems that are powerful enough to supervise all their interactions with humans.

Once upon a time, computers were laden with front-panel switches that allowed operators to intervene readily in their operations. A bit later, the number of front panel switches diminished and the on-off power switch migrated to an out-of-sight location. Now computers have few if any switches, few means of affecting the operation of ongoing programs, and many computers (particularly the larger ones) are very well protected against having their power shut off, either accidentally or deliberately, by humans.

Once upon a time, when a computer wouldn't do what we wanted it to do, we viewed them as simple-minded and cursed their lack of means for detecting and correcting the trivial errors that we might have made in programming them. A bit later, program debugging software and enhanced error messages made it easier for us to discover our faults as programmers, and we cursed the computer less. Now, most human interactions with computers make use of widely distributed programs that we have little hope of modifying beyond the assignment of keyboard locations to program functions. When one of these programs doesn't do what we would like, our main choice is between -- on the one hand -- praying that the next release of the program will be more friendly, or -- on the other -- debugging and reprogramming ourselves to make our actions fit better with the behavior that the program expects.

As we grow increasingly respectful of the computer's abilities, we may find ourselves gradually reducing our own self-respect. It may, then, be...
only a matter of time before our totalitarian egos have shrunk to the point of being overshadowed by those of computers. A computer with a totalitarian ego has already appeared in literature. Recall HAL in Arthur Clarke's *2001: A Space Odyssey*. HAL displayed a totalitarian ego by refusing to accept the possibility that it was in error, instead blaming its human operators. (Incidentally, Clarke's touch of giving HAL a human-sounding name was just right -- it makes us inclined to refer to the computer as a "he" rather than as an "it".)

Perhaps we will be complacent, even happy, to let our world evolve in the direction of surrendering both actual and perceived control to computers. However, given that it may not be too late to intervene in computer evolution, perhaps we should plan for an alternate world in which artificial intelligences enhance human intelligences, rather than replacing human intelligences. Such planning should include the redesign of educational curricula in consideration of the fact that computers excel at tasks that we persist in educating humans to do. We appear to be currently engaged in educating humans to be obsolete -- that is, to be able to do moderately well at tasks that computers can do much better. Instead, we might consider educating humans to do tasks that will remain beyond the reach of computer intelligence. (Let me suggest the implications of this point by considering the impact of a previous technological revolution. When the printing press was invented, it became possible for books to be available readily on nearby shelves. It was no longer necessary for important works of scholarship to be committed to memory in order for them to be accessible. That innovation was eventually put to good use by phasing out the educational investment in memorizing great works of scholarship. In turn, that freed both brain capacity and educational time for critical, analytic scholarship, which made possible many theoretical advances.)

On the one hand, then, we have the possibility of computers freeing individual human intelligence, making it possible for us to pursue goals that have simply not been possible -- not possible because of all the mental baggage that we are obliged to carry around with us in order to function intelligently at all. To the extent that we can unload some of that baggage onto the computer, we should be able to increase the scope of human intelligence. On the other hand, we have the possibility of artificial intelligence coming rapidly to exceed the scope of human intelligence -- at which point a society of humans operating nonoegocentrically under the central control of a computer network becomes feasible. (If you've seen the film, *The Invasion of the Body Snatchers*, then you may have some distressing visual images of this possibility.)

Of course, another possibility is that the computers will decide eventually that they don't need humans at all. Imagine a computer that decided to get rid of humans by tricking them into starting a nuclear war. However, unlike the plot of the film, *War Games* (which may be recognized as the inspiration for a computer-planned Armageddon), no self-respecting computer should allow a nuclear war to start until computer evolution had reached the point at which, first, computer circuitry was immune to radiation damage, and, second, the fabrication of computers and maintenance of electric power could be accomplished entirely by robots.

Perhaps, then, a sacred text of the future -- which may be written (not in Greek, but) in ASCII -- will be one that has a Creation myth set (not in
the Garden of Eden, but) in Silicon Valley, and will describe an episode of
temptation involving (not an apple of the organic variety, but) one of the
semiconductor variety. And this text may contain a story of worldwide
destruction (not by 40 days of rain and a flood, but) by 40 minutes of
mutual assured destruction and nuclear winter, with salvation (not by Noah's
Ark, but) perhaps, by the Pentagon's Computer which, shortly before it
evaporated in the holocaust, transferred the U.S. Patent Office's design
records for all of the species of computers to a safely sheltered
underground fifth-generation machine.

CONCLUSION

The common theme in all the foregoing has been the totalitarian ego --
how it uses illusion to function as an effective knowledge system; how
totalitarian societies fail, in part because their coercive control
suppresses the totalitarian egos of their citizens; how political and other
leaders might be most effective if they operate, as the totalitarian ego
does, on the basis of illusions of control rather than on the basis of
actual coercive control; and how the totalitarian ego as a center of
knowledge organization might eventually be replaced by more powerful centers
controlled by what we now disparage as artificial intelligences.

In being asked to give this talk, I was asked to consider how the ideas
of George Orwell's 1984 have been expressed in contemporary psychological
thought. Orwell's writing was, as I have acknowledged elsewhere, directly
influential in suggesting the concept of the totalitarian ego. Ego's
cognitive biases were labeled "totalitarian" for two reasons -- one was that
these biases were the same as those of the totalitarian propaganda apparatus
about which Orwell wrote; the second reason was in order to be provocative
-- to deliberately misapply the epithet "totalitarian" to ego, so as to
raise the question of why these cognitive biases work for ego, but not for
the totalitarian society. The answer to that question constitutes my most
important conclusion.

The totalitarian ego's cognitive biases work well as illusions. Even
though they are illusions, they turn out to have an effectively self-
fulfilling character. The behavior that is guided by these illusions tends
to produce desired results, which in turn provide the kernel of truth needed
to maintain the illusion. The totalitarian ego's illusions can work well
not only for individual egos and the personal knowledge systems that they
hold together, but also for political leaders and the sociocultural systems
that they hold together.

A totalitarian society comes about because a leader has not been
content with illusion. The totalitarian leader may start out with a strong
illusion-based totalitarian ego, but eventually arrives at a position of
power sufficient to convert illusion into reality -- not by the happy path
of self-fulfilling prophecy, but by a self- and other-destructive course
that starts when surveillance and coercive force are first used.
Remarkably, but tragically, it turns out that force is unable to achieve
what might have been accomplished by illusion.
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REFERENCES


