

大学英语自学教程 (下)

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01-A. What Is a Decision?

A decision is a choice made from among alternative courses of action that are available. The purpose of making a decision is to establish and achieve organizational goals and objectives. The reason for making a decision is that a problem exists, goals or objectives are wrong, or something is standing in the way of accomplishing them.

Thus the decision-making process is fundamental to management. Almost everything a manager does involves decisions, indeed, some suggest that the management process is decision making. Although managers cannot predict the future, many of their decisions require that they consider possible future events. Often managers must make a best guess at what the future will be and try to leave as little as possible to chance, but since uncertainty is always there, risk accompanies decisions. Sometimes the consequences of a poor decision are slight; at other times they are serious.

Choice is the opportunity to select among alternatives. If there is no choice, there is no decision to be made. Decision making is the process of choosing, and many decisions have a broad range of choice. For example, a student may be able to choose among a number of different courses in order to implement the decision to obtain a college degree. For managers, every decision has constraints based on policies, procedures, laws, precedents, and the like. These constraints exist at all levels of the organization.

Alternatives are the possible courses of action from which choices can be made. If there are no alternatives, there is no choice and, therefore, no decision. If no alternatives are seen, often it means that a thorough job of examining the problems has not been done. For example, managers sometimes treat problems in an either/or fashion; this is their way of simplifying complex problems. But the tendency to simplify blinds them to other alternatives.

At the managerial level, decision making includes limiting alternatives as well as identifying them, and the range is from highly limited to practically unlimited.

Decision makers must have some way of determining which of several

alternatives is best -- that is, which contributes the most to the achievement of organizational goals. An organizational goal is an end or a state of affairs the organization seeks to reach. Because individuals (and organizations) frequently have different ideas about how to attain the goals, the best choice may depend on who makes the decision. Frequently, departments or units within an organization make decisions that are good for them individually but that are less than optimal for the larger organization. Called suboptimization, this is a trade-off that increases the advantages to one unit or function but decreases the advantages to another unit or function. For example, the marketing manager may argue effectively for an increased advertising budget. In the larger scheme of things, however, increased funding for research to improve the products might be more beneficial to the organization.

These trade-offs occur because there are many objectives that organizations wish to attain simultaneously. Some of these objectives are more important than others, but the order and degree of importance often vary from person to person and from department to department. Different managers define the same problem in different terms. When presented with a common case, sales managers tend to see sales problems, production managers see production problems, and so on.

The ordering and importance of multiple objectives is also based, in part, on the values of the decision maker. Such values are personal; they are hard to understand, even by the individual, because they are so dynamic and complex. In many business situations different people's values about acceptable degrees of risk and profitability cause disagreement about the correctness of decisions.

People often assume that a decision is an isolated phenomenon. But from a systems point of view, problems have multiple causes, and decisions have intended and unintended consequences. An organization is an ongoing entity, and a decision made today may have consequences far into the future. Thus the skilled manager looks toward the future consequences of current decisions.

01-B. Secrets of Success at an Interview

The subject of today's talk is interviews.

The key words here are preparation and confidence, which will carry you far.

Do your homework first.

Find out all you can about the job you are applying for and the organization you hope to work for.

Many of the employers I interviewed made the same criticism of candidates. "They have no idea what the day to day work of the job brings about. They have vague notions of 'furthering the company's prospects' or of 'serving the community', but have never taken the trouble to find out the actual tasks they will be required to do."

Do not let this be said of you. It shows an unattractive indifference to your employer and to your job.

Take the time to put yourself into the interviewer's place. He wants somebody who is hard-working with a pleasant personality and a real interest in the job.

Anything that you find out about the prospective employer can be used to your advantage during the interview to show that you have bothered to master some facts about the people who you hope to work for.

Write down (and remember) the questions you want to ask the interviewer(s) so that you are not speechless when they invite your questions. Make sure that holidays and pay are not the first things you ask about. If all your questions have been answered during the interview, reply: "In fact, I did have several questions, but you have already answered them all."

Do not be afraid to ask for clarification of something that has been said during the interview if you want to be sure what was implied, but do be polite.

Just before you go to the interview, look again at the original advertisement that you answered, any correspondence from your prospective employer, photocopies of your letter of application or application form and your resume.

Then you will remember what you said and what they want. This is very important if you have applied for many jobs in a short time as it is easy to become confused and give an impression of inefficiency.

Make sure you know where and when you have to report for the interview. Go to the building (but not inside the office) a day or two before, if necessary, to find out how long the journey takes and where exactly the place is.

Aim to arrive five or ten minutes early for the actual interview, then you will have a little time in hand and you will not panic if you are delayed. You start at a disadvantage if you arrive worried and ten minutes late.

Dress in clean, neat, conservative clothes. Now is NOT the time to experiment with the punk look or (girls) to wear low-cut dresses with miniskirts. Make sure that your shoes, hands and hair (and teeth) are clean and neat.

Have the letter inviting you for an interview ready to show in case there is any difficulty in communication.

You may find yourself facing one interviewer or a panel. The latter is far more intimidating, but do not let it worry you too much. The interviewer will probably have a table in front of him/her. Do not put your things or arms on it.

If you have a bag or a case, put it on the floor beside your chair. Do not clutch it nervously or, worse still, drop it, spilling everything.

Shake hands if the interviewer offers his hand first. There is little likelihood that a panel of five wants to go through the process of all shaking hands with you in turn. So you do not be upset if no one offers.

Shake hands firmly -- a weak hand suggests a weak personality, and a crushing grip is obviously painful. Do not drop the hand as soon as yours has touched it as this will seem to show you do not like the other person.

Speak politely and naturally even if you are feeling shy. Think before you answer any questions.

If you cannot understand, ask: "Would you mind rephrasing the question, please?" The question will then be repeated in different words.

If you are not definitely accepted or turned down on the spot, ask: "When may I expect to hear the results of this interview?"

If you do receive a letter offering you the job, you must reply by letter (keep a photocopy) as soon as possible.

Good luck!

02-A. Black Holes

What is a black hole? Well, it's difficult to answer this question, since the

terms we would normally use to describe a scientific phenomenon are inadequate here. Astronomers and scientists think that a black hole is a region of space (not a thing) into which matter has fallen and from which nothing can escape ?not even light. So we can't see a black hole. A black hole exerts a strong gravitational pull and yet it has no matter. It is only space -- or so we think. How can this happen?

The theory is that some stars explode when their density increases to a particular point; they collapse and sometimes a supernova occurs. From earth, a supernova looks like a very bright light in the sky which shines even in the daytime. Supernovae were reported by astronomers in the seventeenth and eighteenth centuries. Some people think that the Star of Bethlehem could have been a supernova. The collapse of a star may produce a White Dwarf or a neutron star -- a star, whose matter is so dense that it continually shrinks by the force of its own gravity. But if the star is very large (much bigger than our sun) this process of shrinking may be so intense that a black hole results. Imagine the earth reduced to the size of a marble, but still having the same mass and a stronger gravitational pull, and you have some idea of the force of a black hole. Any matter near the black hole is sucked in. It is impossible to say what happens inside a black hole. Scientists have called the boundary area around the hole the "event horizon." We know nothing about events which happen once objects pass this boundary. But in theory, matter must behave very differently inside the hole.

For example, if a man fell into a black hole, he would think that he reached the center of it very quickly. However an observer at the event horizon would think that the man never reached the center at all. Our space and time laws don't seem to apply to objects in the area of a black hole. Einstein's relativity theory is the only one which can explain such phenomena. Einstein claimed that matter and energy are interchangeable, so that there is no "absolute" time and space. There are no constants at all, and measurements of time and space depend on the position of the observer. They are relative. We do not yet fully understand the implications of the relativity theory; but it is interesting that Einstein's theory provided a basis for the idea of black holes before astronomers started to find some evidence for their existence. It is only recently that astronomers have begun specific research into black holes. In August 1977, a satellite was launched to gather data about the 10 million black holes which are thought to be

in the Milky Way. And astronomers are planning a new observatory to study the individual exploding stars believed to be black holes,

The most convincing evidence of black holes comes from research into binary star systems. Binary stars, as their name suggests, are twin stars whose position in space affects each other. In some binary systems, astronomers have shown that there is an invisible companion star, a "partner" to the one which we can see in the sky. Matter from the one which we can see is being pulled towards the companion star. Could this invisible star, which exerts such a great force, be a black hole? Astronomers have evidence of a few other stars too, which might have black holes as companions.

The story of black holes is just beginning. Speculations about them are endless. There might be a massive black hole at the center of our galaxy swallowing up stars at a very rapid rate. Mankind may one day meet this fate. On the other hand, scientists have suggested that very advanced technology could one day make use of the energy of black holes for mankind. These speculations sound like science fiction. But the theory of black holes in space is accepted by many serious scientists and astronomers. They show us a world which operates in a totally different way from our own and they question our most basic experience of space and time.

02-B. Worlds within Worlds

First of all let us consider the earth (that is to say, the world) as a planet revolving round the sun. The earth is one of nine planets which move in orbit round the sun. These nine planets, together with the sun, make up what is called our solar system. How this wonderful system started and what kept it working with such wonderful accuracy is largely a mystery but astronomers tell us that it is only one of millions of similar systems in space, and one of the smallest.

The stars which we see glittering in the sky on a dark and cloudless night are almost certainly the suns of other solar systems more or less like our own, but they are so far away in space that it is unlikely that we shall ever get to know

very much about them. About our own solar system, however, we are learning more every day.

Before the American and Russian astronauts made their thrilling journeys into outer space it was difficult for us to realise what our earth looked like from hundreds of thousands of miles away, but the photographs which the astronauts were able to take show us the earth in space looking not very different from what the moon looks like when we look at it from the earth. The earth is, however, very different from the moon, which the American astronauts have found to be without life or vegetation, whereas our earth is very much alive in every respect. The moon, by the way, is called a satellite because it goes round our earth as well as round the sun. In other words, it goes round the sun with our earth.

The surface of our earth is covered by masses of land and larger areas of water. Let us consider the water areas first. The total water area is about three times as large as the land area. The very large separate areas of water are called "oceans" and the lesser areas are called "seas."

In most of the oceans and seas some of the water is found to be flowing in a particular direction -- that is to say, from one part towards another part of the ocean or sea concerned. The water which is flowing in this manner is said to be moving as a "current." There are many thousands of currents in the waters of the oceans and seas, but only certain of the stronger and better marked currents are specially named and of great importance. These currents are important because they affect the climate of the land areas close to where they flow and also because they carry large quantities of microscopic animal and vegetable life which forms a large part of the food for fishes.

The nature and characteristics of the surface of the land areas of the earth vary a great deal from area to area and from place to place. The surface of some areas consists largely of high mountains and deep valleys whilst, in other areas, most of the surface consists of plains. If one made a journey over the Continents one would find every kind of surface including mountain ranges, plains, plateaux, deserts, tropical forestlands and empty areas covered permanently by ice and snow.

When thinking and learning about the world we should not forget that our world is the home of a very great many different people -- peoples with different

coloured skins, living very different lives and having very different ideas about a great many important things such as religion, government, education and social behaviour.

The circumstances under which different people live make a great difference between the way in which they live and the way in which we live, and it ought to be our business to try to understand those different circumstances so that we can better understand people of other lands. Above all, we should avoid deciding what we think about people different from ourselves without first having learned a great deal about them and the kind of lives they have to live. It is true to say that the more we learn about other people, the better we understand their ideas and, as a rule, the better we like those people themselves.

03-A. Euthanasia: For and Against

"We mustn't delay any longer ... swallowing is difficult ... and breathing, that's also difficult. Those muscles are weakening too ... we mustn't delay any longer."

These were the words of Dutchman Cees van Wendel de Joode asking his doctor to help him die. Affected with a serious disease, van Wendel was no longer able to speak clearly and he knew there was no hope of recovery and that his condition was rapidly deteriorating.

Van Wendel's last three months of life before being given a final, lethal injection by his doctor were filmed and first shown on television last year in the Netherlands. The programme has since been bought by 20 countries and each time it is shown, it starts a nationwide debate on the subject.

The Netherlands is the only country in Europe which permits euthanasia, although it is not technically legal there. However, doctors who carry out euthanasia under strict guidelines introduced by the Dutch Parliament two years ago are usually not prosecuted. The guidelines demand that the patient is experiencing extreme suffering, that there is no chance of a cure, and that the patient has made repeated requests for euthanasia. In addition to this, a second

doctor must confirm that these criteria have been met and the death must be reported to the police department.

Should doctors be allowed to take the lives of others? Dr. Wilfred van Oijen, Cees van Wendel's doctor, explains how he looks at the question:

"Well, it's not as if I'm planning to murder a crowd of people with a machine gun. In that case, killing is the worst thing I can imagine. But that's entirely different from my work as a doctor. I care for people and I try to ensure that they don't suffer too much. That's a very different thing."

Many people, though, are totally against the practice of euthanasia. Dr. Andrew Ferguson, Chairman of the organisation Healthcare Opposed to Euthanasia, says that "in the vast majority of euthanasia cases, what the patient is actually asking for is something else. They may want a health professional to open up communication for them with their loved ones or family -- there's nearly always another question behind the question."

Britain also has a strong tradition of hospices -- special hospitals which care only for the dying and their special needs. Cicely Saunders, President of the National Hospice Council and a founder member of the hospice movement, argues that euthanasia doesn't take into account that there are ways of caring for the dying. She is also concerned that allowing euthanasia would undermine the need for care and consideration of a wide range of people: "It's very easy in society now for the elderly, the disabled and the dependent to feel that they are burdens, and therefore that they ought to opt out. I think that anything that legally allows the shortening of life does make those people more vulnerable."

Many find this prohibition of an individual's right to die paternalistic. Although they agree that life is important and should be respected, they feel that the quality of life should not be ignored. Dr. van Oijen believes that people have the fundamental right to choose for themselves if they want to die: "What those people who oppose euthanasia are telling me is that dying people haven't the right. And that when people are very ill, we are all afraid of their death. But there are situations where death is a friend. And in those cases, why not? But "why not?" is a question which might cause strong emotion. The film showing Cees van Wendel's death was both moving and sensitive. His doctor was clearly a family friend; his wife had only her husband's interests at heart. Some, however, would argue that it would be dangerous to use this particular example

to support the case for euthanasia. Not all patients would receive such a high level of individual care and attention.

03-B. Advantage Unfair

According to the writer Walter Ellis, author of a book called *the Oxbridge Conspiracy*, Britain is still dominated by the old-boy network: it isn't what you know that matters, but who you know. He claims that at Oxford and Cambridge Universities (Oxbridge for short) a few select people start on an escalator ride which, over the years, carries them to the tops of British privilege and power. His research revealed that the top professions all continue to be dominated, if not 90 per cent, then 60 or 65 per cent, by Oxbridge graduates.

And yet, says Ellis, Oxbridge graduates make up only two per cent of the total number of students who graduate from Britain's universities. Other researches also seem to support his belief that Oxbridge graduates start with an unfair advantage in the employment market. In the law, a recently published report showed that out of 26 senior judges appointed to the High Court last year, all of them went to private schools and 21 of them went to Oxbridge.

But can this be said to amount to a conspiracy? Not according to Dr. John Rae, a former headmaster of one of Britain's leading private schools, Westminster:

"I would accept that there was a bias in some key areas of British life, but that bias has now gone. Some time ago -- in the 60s and before ?entry to Oxford and Cambridge was not entirely on merit. Now, there's absolutely no question in any objective observer's mind that, entry to Oxford and Cambridge is fiercely competitive."

However, many would disagree with this. For, although over three-quarters of British pupils are educated in state schools, over half the students that go to Oxbridge have been to private, or "public" schools. Is this because pupils from Britain's private schools are more intelligent than those from state schools, or are they simply better prepared?

On average, about \$ 5,000 a year is spent on each private school pupil, more than twice the amount spent on state school pupils. So how can the state schools be expected to compete with the private schools when they have far fewer resources? And how can they prepare their pupils for the special entrance exam to Oxford University, which requires extra preparation, and for which many public school pupils traditionally stay at school and do an additional term?

Until recently, many blamed Oxford for this bias because of the university's special entrance exam (Cambridge abolished its entrance exam in 1986). But last February, Oxford University decided to abolish the exam to encourage more state school applicants. From autumn 1996, Oxford University applicants, like applicants to other universities, will be judged only on their A level results and on their performance at interviews, although some departments might still set special tests.

However, some argue that there's nothing wrong in having elite places of learning, and that by their very nature, these places should not be easily accessible. Most countries are run by an elite and have centres of academic excellence from which the elite are recruited. Walter Ellis accepts that this is true:

"But in France, for example, there are something like 40 equivalents of university, which provide this elite through a much broader base. In America you've got the Ivy League, centred on Harvard and Yale, with Princeton and Stanford and others. But again, those universities together -- the elite universities -- are about ten or fifteen in number, and are being pushed along from behind by other great universities like, for example, Chicago and Berkeley. So you don't have just this narrow concentration of two universities providing a constantly replicating elite."

When it comes to Oxford and Cambridge being elitist because of the number of private school pupils they accept, Professor Stone of Oxford University argues that there is a simple fact he and his associates cannot ignore:

"If certain schools do better than others then we just have to accept it. We cannot be a place for remedial education. It's not what Oxford is there to do."

However, since academic excellence does appear to be related to the amount of money spent per pupil, this does seem to imply that Prime Minister John Major's vision of Britain as a classless society is still a long way off. And it

may be worth remembering that while John Major didn't himself go to Oxbridge, most of his ministers did.

04-A. Slavery on Our Doorstep

There are estimated to be more than 20,000 overseas domestic servants working in Britain (the exact figure is not known because the Home Office, the Government department that deals with this, does not keep statistics). Usually, they have been brought over by foreign businessmen, diplomats or Britons returning from abroad. Of these 20,000, just under 2,000 are being exploited and abused by their employers, according to a London-based campaigning group which helps overseas servants working in Britain.

The abuse can take several forms. Often the domestics are not allowed to go out, and they do not receive any payment. They can be physically, sexually and psychologically abused. And they can have their passports removed, making leaving or "escaping" virtually impossible.

The sad condition of women working as domestics around the world received much media attention earlier this year in several highly publicised cases. In one of them, a Filipino maid was executed in Singapore after being convicted of murder, despite protests from various quarters that her guilt had not been adequately established. Groups like Anti-Slavery International say other, less dramatic, cases are equally deserving of attention, such as that of Lydia Garcia, a Filipino maid working in London:

"I was hired by a Saudi diplomat directly from the Philippines to work in London in 1989. I was supposed to be paid \$ 120 but I never received that amount. They always threatened that they would send me back to my country."

Then there is the case of Kumari from Sri Lanka. The main breadwinner in her family, she used to work for a very low wage at a tea factory in Sri Lanka. Because she found it difficult to feed her four children, she accepted a job working as a domestic in London. She says she felt like a prisoner at the London house where she worked:

"No days off -- ever, no breaks at all, no proper food. I didn't have my own room; I slept on a shelf with a spad0 of only three feet above me. I wasn't allowed to talk to anybody. I wasn't even allowed to open the window. My

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employers always threatened to report me to the Home Office or the police.”

At the end of 1994 the British Government introduced new measures to help protect domestic workers from abuse by their employers. This included increasing the minimum age of employees to 18, getting employees to read and understand an advice leaflet, getting employers to agree to provide adequate maintenance and conditions, and to put in writing the main terms and conditions of the job (of which the employees should see a copy).

However, many people doubt whether this will successfully reduce the incidence of abuse. For the main problem facing overseas maids and domestics who try to complain about cruel living and working conditions is that they do not have independent immigrant status and so cannot change employer. (They are allowed in the United Kingdom under a special concession in the immigration rules which allows foreigners to bring domestic staff with them.) So if they do complain, they risk being deported.

Allowing domestic workers the freedom to seek the same type of work but with a different employer, if they so choose, is what groups like Anti-Slavery International are campaigning the Government for. It is, they say, the right to change employers which distinguishes employment from slavery.

04-B. Return of The Chain Gang

Eyewitnesses say it was a scene straight out of a black and white movie from the 1950s. As the sun rose over the fields of Huntsville, Alabama, in the American South, the convicts got down from the trucks that had brought them there. Watched over by guards with guns, they raised their legs in unison and made their way to the edge of the highway, Interstate 65. The BBC's Washington correspondent Clare Bolderson was there and she sent this report:

"They wore white uniforms with the words 'Chain Gang' on their backs and, in groups of five, were shackled together in leg irons joined by an eight-foot chain. The prisoners will work for up to 90 days on the gang: they'll clear ditches of weeds and mend fences along Alabama's main roads. While they are working on the gang, they 拘 I also live in some of the harshest prison conditions in the United States. There'll be no televisions or phone calls; many other day-to-day privileges will be denied.”

The authorities in Alabama say there is a lot of support for the

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re-introduction of chain gangs in the State after a gap of 30 years (the last gangs were abolished in Georgia in the early 1960s). Many people believe it is an effective way to get criminals to pay back their debt to society.

The prisoners stay shackled when they use toilets. They reacted sharply to the treatment they are given:

Prisoner one: "This is like a circus. A zoo. All chained here to a zoo. We're all animals now."

Prisoner two: "It's degrading. It's embarrassing."

Prisoner three: "In chains. It's slavery!"

Six out of every ten prisoners in chains are black, which is why the chain gangs call up images of slavery in centuries gone by, when black people were brought from Africa in leg irons and made to work in plantations owned by white men. Not surprisingly, although three-quarters of the white population of Alabama supports chain gangs, only a small number of black people do. Don Claxton, spokesman for the State Government of Alabama, insists that the system is not racist:

"This isn't something that's done for racial reasons, for political reasons. This is something that's going to help save the people of Alabama tax money because they don't have to pay as many officers to work on the highways. And it's going to help clean up our highways and it's going to help clean up the State."

However, the re-introduction of these measures has caused a great deal of strong disagreement. Human rights organizations say that putting prisoners in chains is not only inhumane but also ineffective. Alvin Bronstein, member of the Civil Liberties Union, says that study after study has shown that you cannot prevent people from committing crimes by punishment or the threat of punishment: "What they will do is make prisoners more angry, more hostile, so that when they get out of prison, they will increase the level of their criminal behaviour."

Civil liberties groups say that chaining people together doesn't solve the causes of crime, such as poverty or disaffection within society. What it does is punish prisoners for the ills of society. They say the practice takes the United States back to the Middle Ages, and that it is a shame to American society. But that 扭 not an argument likely to win favour among many people in the Deep

South of the United States. Alabama's experiment is to be widened to include more prisoners, and other States, such as Arkansas and Arizona, will very probably introduce their own chain gang schemes.

05-A. The New Music

The new music was built out of materials already in existence: blues, rock'n'roll, folk music. But although the forms remained, something completely new and original was made out of these older elements -- more original, perhaps, than even the new musicians themselves yet realize. The transformation took place in 1966--1967. Up to that time, the blues had been an essentially black medium. Rock'n'roll, a blues derivative, was rhythmic dance music. Folk music, old and modern, was popular among college students. The three forms remained musically and culturally distinct, and even as late as 1965, none of them were expressing any radically new states of consciousness. Blues expressed black soul; rock was the beat of youthful energy; and folk music expressed anti-war sentiments as well as love and hope.

In 1966 -- 1967 there was spontaneous transformation. In the United States, it originated with youthful rock groups playing in San Francisco. In England, it was led by the Beatles, who were already established as an extremely fine and highly individual rock group. What happened, as well as it can be put into words, was this. First, the separate musical traditions were brought together. Bob Dylan and the Jefferson Airplane played folk rock, folk ideas with a rock beat. White rock groups began experimenting with the blues. Of course, white musicians had always played the blues, but essentially as imitators of the Negro style; now it began to be the white bands' own music. And all of the groups moved towards a broader eclecticism and synthesis. They freely took over elements from jazz, from American country music, and as time went on from even more diverse sources. What developed was a music readily taking on various forms and capable of an almost limitless range of expression.

The second thing that happened was that all the musical groups began using the full range of electric instruments and the technology of electronic amplifiers. The electric guitar was an old instrument, but the new electronic effects were altogether different -- so different that a new listener in 1967 might well feel that there had never been any sounds like that in the world before.

Electronics did, in fact, make possible sounds that no instrument up to that time could produce. And in studio recordings, new techniques made possible effects that not even an electronic band could produce live. Electronic amplifiers also made possible a fantastic increase in volume, the music becoming as loud and penetrating as the human ear could stand, and thereby achieving a "total" effect, so that instead of an audience of passive listeners, there were now audiences of total participants, feeling the music in all of their senses and all of their bones.

Third, the music becomes a multi-media experience; a part of a total environment. The walls of the ballrooms were covered with changing patterns of light, the beginning of the new art of the light show. And the audience did not sit, it danced. With records at home, listeners imitated these lighting effects as best they could, and heightened the whole experience by using drugs. Often music was played out of doors, where nature provided the environment.

05-B. Different Types of Composers

I can see three different types of composers in musical history, each of whom creates music in a somewhat different fashion.

The type that has fired public imagination most is that of the spontaneously inspired composer -- the Franz Schubert type, in other words. All composers are inspired, of course, but this type is more spontaneously inspired. Music simply wells out of him. He can't get it down on paper fast enough. You can almost tell this type of composer by his fruitful output. In certain months, Schubert wrote a song a day. Hugo Wolf did the same.

In a sense, men of this kind begin not so much with a musical theme as with a completed composition. They invariably work best in the shorter forms. It is much easier to improvise a song than it is to improvise a symphony. It isn't easy to be inspired in that spontaneous way for long periods at a stretch. Even Schubert was more successful in handling the shorter forms of music. The spontaneously inspired man is only one type of composer, with his own limitations.

Beethoven belongs to the second type -- the constructive type, one might call it. This type serves as an example of my theory of the creative process in

music better than any other, because in this case the composer really does begin with a musical theme. In Beethoven's case there is no doubt about it, for we have the notebooks in which he put the themes down. We can see from his notebooks how he worked over his themes -- how he would not let them be until they were as perfect as he could make them. Beethoven was not a spontaneously inspired composer in the Schubert sense at all. He was the type that begins with a theme; makes it a preliminary idea; and upon that composes a musical work, day after day, in painstaking fashion. Most composers since Beethoven's day belong to this second type.

The third type of composer I can only call, for lack of a better name, the traditionalist type. Men like Palestrina and Bach belong in this category. They both are characteristic of the kind of composer who is born in a particular period of musical history, when a certain musical style is about to reach its fullest development. It is a question at such a time of creating music in a well-known and accepted style and doing it in a way that is better than anyone has done it before you.

The traditionalist type of composer begins with a pattern rather than with a theme. The creative act with Palestrina is not the thematic conception so much as the personal treatment of a well-established pattern. And even Bach, who composed forty-eight of the most various and inspired themes in his *Well Tempered Clavichord*, knew in advance the general formal mold that they were to fill. It goes without saying that we are not living in a traditionalist period nowadays.

One might add, for the sake of completeness, a fourth type of composer -- the pioneer type: men like Gesualdo in the seventeenth century, Moussorgsky and Berlioz in the nineteenth, Debussy and Edgar Varese in the twentieth. It is difficult to summarize the composing methods of so diversified a group. One can safely say that their approach to composition is the opposite of the traditionalist type. They clearly oppose conventional solutions of musical problems. In many ways, their attitude is experimental ?they seek to add new harmonies, new sonorities, new formal principles. The pioneer type was the characteristic one at the turn of the seventeenth century and also at the beginning of the twentieth century, but it is much less evident today.

06-A. Improving Industrial Efficiency through Robotics

Robots, becoming increasingly prevalent in factories and industrial plants throughout the developed world, are programmed and engineered to perform industrial tasks without human intervention.

Most of today's robots are employed in the automotive industry, where they are programmed to take over such jobs as welding and spray painting automobile and truck bodies. They also load and unload hot, heavy metal forms used in machines casting automobile and truck frames.

Robots, already taking over human tasks in the automotive field, are beginning to be seen, although to a lesser degree, in other industries as well. There they build electric motors, small appliances, pocket calculators, and even watches. The robots used in nuclear power plants handle the radioactive materials, preventing human personnel from being exposed to radiation. These are the robots responsible for the reduction in job-related injuries in this new industry.

What makes a robot a robot and not just another kind of automatic machine? Robots differ from automatic machines in that after completion of one specific task, they can be reprogrammed by a computer to do another one. As an example, a robot doing spot welding one month can be reprogrammed and switched to spray painting the next. Automatic machines, on the other hand, are not capable of many different uses; they are built to perform only one task.

The next generation of robots will be able to see objects, will have a sense of touch, and will make critical decisions. Engineers skilled in microelectronics and computer technology are developing artificial vision for robots. With the ability to "see", robots can identify and inspect one specific class of objects out of a stack of different kinds of materials. One robot vision system uses electronic digital cameras containing many rows of light-sensitive materials. When light from an object such as a machine part strikes the camera, the sensitive materials measure the intensity of light and convert the light rays into a range of numbers. The numbers are part of a grayscale system in which brightness is measured in a range of values. One scale ranges from 0 to 15, and another from 0 to 255. The 0 is represented by black. The highest number is white. The numbers in between represent different shades of gray. The computer

then makes the calculations and converts the numbers into a picture that shows an image of the object in question. It is not yet known whether robots will one day have vision as good as human vision. Technicians believe they will, but only after years of development.

Engineers working on other advances are designing and experimenting with new types of metal hands and fingers, giving robots a sense of touch. Other engineers are writing new programs allowing robots to make decisions such as whether to discard defective parts in finished products. To do this, the robot will also have to be capable of identifying those defective parts.

These future robots, assembled with a sense of touch and the ability to see and make decisions, will have plenty of work to do. They can be used to explore for minerals on the ocean floor or in deep areas of mines too dangerous for humans to enter. They will work as gas station attendants, firemen, housekeepers, and security personnel. Anyone wanting to understand the industry of the future will have to know about robotics.

06-B. Predicting Earthquakes

Can earthquakes be predicted? Scientists are working on programs to predict where and when an earthquake will occur. They hope to develop an early warning system that can be used to forecast earthquakes so that lives can be saved.

Earthquakes are the most dangerous and deadly of all natural events. They occur in many parts of the world. Giant earthquakes have been recorded in Iran, China, Guatemala, Chile, India, and Alaska. Two of the biggest earthquakes that were ever recorded took place in China and Alaska. These earthquakes measured about 8.5 on the Richter Scale. The Richter Scale was devised by Charles Richter in 1935, and compares the energy level of earthquakes. An earthquake that measures a 2 on the scale can be felt but causes little damage. One that measures 4.5 on the scale can cause slight damage, and an earthquake that has a reading of over 7 can cause major damage. It is important to note that a reading of 4 indicates an earthquake ten times as strong as one with a reading of 3. Scientists want to be able to predict those earthquakes that have a reading of

over 4 on the Richter Scale.

How do earthquakes occur? Earthquakes are caused by the shifting of rocks along cracks, or faults, in the earth's crust. The fault is produced when rocks near each other are pulled in different directions. The best-known fault in North America is the San Andreas fault in the state of California in the United States.

The nations that are actively involved in earthquake prediction programs include Japan, China, Russia, and the United States. These countries have set up seismic networks in areas of their countries where earthquakes are known to occur. These networks are on the alert for warning signs that show the weakening of rock layers that can precede an earthquake. Many kinds of seismic instruments are used by the networks to monitor the movements of the earth's crust. The scientists also check water in deep wells. They watch for changes in the water level and temperature that are associated with movement along faults.

Scientists in China, Russia, and the United States measure radon in ground water. Radon is a gas that comes from the radioactive decay of radium in rocks. The gas flows through the ground and dissolves in underground streams and wells. Scientists speculate that the amount of radon increases in the ground when rocks layers shift, exposing new rock, and thus more radon. Chinese and Russian scientists have reported that in places where stress is building up, the radon levels of the water build up too. When the radon levels of the water subside and drop back to normal readings, an earthquake may occur. United States scientists have also placed radon monitoring stations in earthquake zones, particularly California. However, all the scientists agree that more data is necessary to prove that radon levels in water are associated with the possible birth of an earthquake.

Earthquake prediction is still a young science. Everyone agrees that earthquakes cannot be predicted with any reliability. Scientists have only a partial understanding of the physical processes that cause earthquakes. Much more research has to be done. New and more up-to-date methods have to be found for collecting earthquake data and analyzing it. However, scientists have had some success in predicting earthquakes. Several small earthquakes were predicted in New York State, in the eastern part of the United States. Chinese scientists predicted a major one in Haicheng in 1975, and Russian scientists predicted a major one in Garm in 1978. While this is a small start, it is still a

beginning.

07-A. Leisure and Leadership

Observations and research findings indicate that people in advanced industrial societies are increasingly concerned with opportunities for leisure and what they can do in their leisure time. The importance people attach to paid holidays and the rapid development of services for mass entertainment and recreation are signs of this increasing concern.

The term "quality of life" is difficult to define. It covers a very wide scope such as living environment, health, employment, food, family life, friends, education, material possessions, leisure and recreation, and so on. Generally speaking, the quality of life, especially as seen by the individual, is meaningful in terms of the degree to which these various areas of life are available or provide satisfaction to the individual.

As activity carried out as one thinks fit during one's spare time, leisure has the following functions: relaxation, recreation and entertainment, and personal development. The importance of these varies according to the nature of one's job and one's life-style. Thus, people who need to exert much energy in their work will find relaxation most desirable in leisure. Those with a better education and in professional occupations may tend more to seek recreation and personal development (e.g., cultivation of skills and hobbies) in leisure.

The specific use of leisure varies from individual to individual. Even the same leisure activity may be used differently by different individuals. Thus, the following are possible uses of television watching, a popular leisure activity: a change of experience to provide "escape" from the stress and strain of work; to learn more about what is happening in one's environment; to provide an opportunity for understanding oneself by comparing other people's life experiences as portrayed in the programmes.

In an urban society in which highly structured, fast-paced and stressful work looms large in life, experiences of a different nature, be it television watching or bird-watching, can lead to a self-renewal and a more "balanced" way of life.

Since leisure is basically self-determined, one is able to take to one's interests and preferences and get involved in an activity in ways that will bring

enjoyment and satisfaction.

Our likes and dislikes, tastes and preferences that underlie our choices of such activities as reading books, going to the cinema, camping, or certain cultural pursuits, are all related to social contexts and learning experiences. We acquire interests in a variety of things and subjects from our families, schools, jobs, and the mass media. Basically, such attitudes amount to a recognition that leisure is an important area of life and a belief that leisure can and should be put to good use.

Professional workers in recreation services, too, will find that to impart positive leisure attitudes to the general public is essential for motivating them to use their leisure in creative and satisfying ways. Hence, it can be argued that the people with whom we come into contact in these various contexts are all likely to have exerted some influence in shaping our attitudes, interests and even skills relevant to how we handle leisure. Influence of this kind is a form of leadership.

Parents, teachers in schools, work associates and communicators in or using the mass media are all capable of arousing our potential interests. For example, the degree to which and the ways in which a school encourages participation in games, sports and cultural pursuits are likely to contribute to the shaping of leisure attitudes on the part of the students.

Schools usually set as their educational objective the attainment of a balanced development of the person. The more seriously this is sought, the more likely positive attitudes towards leisure as well as academic work will be encouraged.

07-B. The Time Message

You may have been exposed to this idea before, but this time try to hear. There is a message that is trying to reach you, and it is important that it get through loud and clear. The message?

Time management!

Time is elusive and tricky. It is the easiest thing in the world to waste -- the most difficult to control. When you look ahead, it may appear you have more than you need. Yet it has a way of slipping through your fingers like quicksand. You may suddenly find that there is no way to stretch the little time you have left

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to cover all your obligations. For example, as a beginning student looking ahead to a full term you may feel that you have an oversupply of time on your hands. But toward the end of the term you may panic because time is running out. The answer?

Control!

Time is dangerous. If you don't control it, it will control you. If you don't make it work for you, it will work against you. You must become the master of time, not the servant.

Study hard and play hard is an old proverb, but it still makes sense. You have plenty of time for classes, study, work, and play if you use your time properly. It is not how much time you allocate for study that counts but how much you learn when you do study.

Too much wasted time is bad medicine. The more time you waste, the easier it is to continue wasting time. Soon, doing nothing becomes a habit you can't break. It becomes a drug. When this happens, you lose your feeling of accomplishment and you fall by the wayside. A full schedule is a good schedule.

Some students refuse to hear the time message. They refuse to accept the fact that college life demands some degree of time control. There is no escape. So what's the next step? If you seriously wish to get the time message, this passage will give it to you. Remember ?it will not only improve your grades but also free you to enjoy college life more.

Message 1. Time is valuable -- control it from the beginning.

Time is today, not tomorrow or next week. Start your plan at the beginning of the term and readjust it with each new project. Thus you can spread your work time around a little.

Message 2. Get the notebook habit.

Go and buy a pocket-size notebook. There are many varieties of these special notebooks. Select the one you like best. Use it to schedule your study time each day. You can also use it to note important dates, appointments, addresses, and telephone numbers. Keep it with you at all times.

Message 3. Prepare a weekly study schedule.

The main purpose of the notebook is to help you prepare a weekly study schedule. Once prepared, follow the same pattern every week with minor adjustments. Sunday is an excellent day to make up your schedule for the

following week. Write in your class schedule first. Add your work hours, if any. Then write in the hours each day you feel you must allocate for study. Keep it simple.

Message 4. Be realistic.

When you plan time for these things, be realistic. Don't underestimate. Overestimate, if possible, so that emergencies that arise don't hang you up. Otherwise your entire routine may get thrown off balance while you devote night and day to crash efforts. Message 5. Make study time fit the course.

How much study time you schedule for each classroom hour depends on four factors: (1) your ability, (2) the difficulty of the class, (3) the grades you hope to achieve, and (4) how well you use your study time. One thing, however, is certain: you should schedule a minimum of one hour of study for each classroom hour. In many cases, more will be required.

Message 6. Keep your schedule flexible.

A good schedule must have a little give so that special projects can be taken care of properly. Think out and prepare your schedule each week and do not become a slave to an inflexible pattern. Adjust it as you deem necessary.

Message 7. Study first ?fun later.

You will enjoy your fun time more after you have completed your study responsibilities. So, where possible, schedule your study hours in advance of fun activities. This is a sound principle to follow, so keep it in mind as you prepare your first schedule.

Message 8. Study some each class day.

Some concentrated study each day is better than many study hours one day and nothing the next. As you work out your individual schedule, attempt to include a minimum of two study hours each day. This will not only keep the study habit alive but also keep you up to date on your class assignments and projects.

Few beginning freshmen can control their time effectively without a written schedule, so why kid yourself into thinking you don't need one? You do. Later on, when you have had more experience and you have the time-control habit, you may be able to operate without it. Of course the schedule is only the first step. Once you have it prepared, you must stick with it and follow it faithfully. You must push away the many temptations that are always present or your

schedule is useless. Your schedule will give you control only if you make it work.

08-A. Jet Lag: Prevention and Cure

The problem of Jet Lag is one every international traveller comes across at some time. But do you have to suffer? Understand what it is, and how a careful diet can minimize its worst effects, and your flights will be less stressful.

The effects of rapid travel on the body are actually far more disturbing than we realize. Jet Lag is not a psychological consequence of having to readjust to a different time zone. It is due to changes in the body's physiological regulatory mechanisms, specifically the hormonal systems, in a different environment.

Confused? So was John Foster Dulles, the American Secretary of State, when he flew to Egypt to conduct negotiations on the Aswan Dam. He later blamed his poor judgement on Jet Lag.

The effects can be used to advantage, too. President Johnson once conducted an important meeting in Guam and kept the entire proceedings at Washington DC time. The White House working personnel were as fresh as paint, while the locals, in this case, were jet-lagged. Essentially, they had been instantaneously transported to America.

Now that we understand what Jet Lag is, we can go some way to overcoming it. A great number of the body's events are scheduled to occur at a certain time of day. Naturally these have to be regulated, and there are two regulatory systems which interact.

One timing system comes from the evidence of our senses and stomachs, and the periodicity we experience when living in a particular time zone. The other belongs in our internal clocks (the major one of which may be physically located in a part of the brain called the suprachiasmatic nucleus) which, left alone, would tie the body to a 25 hour -- yes, 25 -- rhythm. Normally the two timers are in step, and the external cues tend to regularise the internal clocks to the more convenient 24 hour period.

If, however, you move the whole body to a time zone which is four hours different, the two clocks will be out of step, like two alarm clocks which are

normally set together, but which have been reset a few hours apart. Whereas the two clocks would normally sound their alarms together, now they ring at different times. Similarly, the body can be set for evening while the sun is rising.

In time the physiological system will reset itself, but it does take time. One easily monitored rhythm is palm sweating. A man flown to a time zone different by 10 hours will take eight days to readjust his palm sweat. Blood pressure, which is also rhythmical, takes four days to readjust.

One reason for this discrepancy is that different bodily events are controlled by different factors. The hormone cortisol, which controls salt and water excretion, is made in the morning, wherever the body is. But the growth hormone is released during sleep, whenever in the day that sleep occurs. Normally these two hormones are separated by seven or eight hours, but if the body arrives at a destination in the early morning (local) and goes to sleep as soon as possible, the two hormones will be released simultaneously.

What can we do about it? It is not feasible to wait four days until the body is used to the new time zone. Fortunately there is a short cut. It relies on two things -- the power of the stomach to regulate the timing of other events, and the pharmacological actions of coffee.

The basic assumptions are:

Coffee delays the body clock in the morning, and advances it at night. Coffee at mid-afternoon is neutral.

Protein in meals stimulates wakefulness, while carbohydrates promote sleep.

Putting food into an empty stomach helps synchronize the body clock.

08-B. Coetrolling Your Concentration

CONCENTRATION IS CENTERING YOUR ATTENTION

Psychologically defined, concentration is the process of centering one's attention over a period of time. In practical application, however, concentration is not as simple to deal successfully with as the definition may imply. For this reason, it is helpful to keep the following points in mind.

Your attention span varies

Even with the greatest effort, our span of attention fluctuates. You can demonstrate for yourself this fluctuation of attention. In a quiet room, place a watch so that it can just scarcely be heard. Listen carefully and notice how the ticking increases in apparent intensity, fades to a point where it cannot be heard, and then increases again. This phenomenon reveals how our span of attention fluctuates, for the intensity of the ticking is actually constant.

You pay attention to one thing at a time

Evidence to date indicates that you attend to one idea at a time. It is possible for your attention to shift so rapidly that it seems that you attend to several concepts at once. But apparently this is only an illusion. In high concentration the shift from the focus of attention is of short duration and relatively infrequent.

An illustration of periods of high, moderate, and low attention

High attention has long periods of attending and short distraction periods. In low attention the periods of attending are short and the distraction periods long. In moderate attention there is a mixture of the extremes. Thus it is easy to see that it is highly unlikely that the student who has most of his attention centered on fancying at large will be able to recall even the major points of a lecture.

Lack of concentration is a symptom, not the cause, of difficulty. When a student says "I can't concentrate", what he is really saying is, "I can't attend to the task at hand because my distractors are too strong."

DISTRACTORS ARE OF TWO SORTS --PSYCHOLOGICAL AND PHYSICAL

A distractor is anything which causes attention to vary from a central focal point. In the study situation distractors may be thought of as either psychological or physical in nature. Both types of distractors must be understood before the student can attempt to remedy his lack of concentration.

Emotions are the most powerful distractors

The angry man forgets the pain of injury the fearful man finds it difficult to enjoy pleasure and the tense or anxious person may react violently to the smallest of matters. In the student's life there are many psychological pressures and tensions which block effective productivity. The fears about making the

grade, the doubts of the friendliness of a friend's behaviour and the pressures of limited finances -- these are only a few of the emotional forces which affect the student.

Emotional reaction varies greatly from person to person. Some persons gain goal and direction from their tensions and actually do better because of them. Others fall apart under pressure, while a few people do well despite the pressure.

Physical distractors are always present and rarely understood

Our environment is much more important to how we feel and react than we often think. Particularly is this true of the effect of physical distractors on mental tasks. One research report has shown that comprehension and retention of reading were decreased when students listened to lively music. However, rate of reading was not affected, so that many students were not aware that they were affected by the background distractor. Another study found that the ability to recall accurately was affected by distracting conditions. Most of the evidence indicates that noise affects adversely higher mental task output. Still, the effect of distractors is seldom fully appreciated by students.

ROUTINE AND REASONING TASKS ARE AFFECTED DIFFERENTLY BY DISTRACTORS

Many routine tasks can be performed with distraction in the background with little or no adverse effect on output. Most students have found this fact to be true from their own experience. They may have had high school homework which was drill or merely copying assignments. It was possible to do such work with the latest recordings or the television set playing in the background. In time such students began to feel certain that they could do all work -- routine or problem-solving -- in the same manner. The evidence indicates the contrary conclusion.

EXCEPTIONS MAY MISLEAD YOU

Typically when students are faced with the evidence on distractors the argument is given that their cousin, friend, or classmate can study in "Grand Central Station." And he makes "all A's" too! There is evidence, of course, that motivation plays an important role in overcoming the effects of distractors and that there are considerable differences in individual spans of attention. Either of

these factors could account for some individuals being able to do well using inefficient methods. The fact that some exceptional people do well under adverse conditions scarcely justifies your assuming that you are exceptional in the same manner. Your chances of success are higher if you avoid the distractors which are known to hinder the typical student.

09-A. Aging in European Countries

We have to realise how old, how very old, we are. Nations are classified as "aged" when they have 7 per cent or more of their people aged 65 or above, and by about 1970 every one of the advanced countries had become like this. Of the really ancient societies, with over 13 per cent above 65, all are in Northwestern Europe. At the beginning of the 1980's East Germany had 15.6 per cent, Austria, Sweden, West Germany and France had 13.4 per cent or above, and England and Wales 13.3 per cent. Scotland had 12.3 per cent. Northern Ireland 10.8 per cent and the United States 9.9 per cent. We know that we are getting even older, and that the nearer a society approximates to zero population growth, the older its population is likely to be -- at least, for any future that concerns us now.

To these now familiar facts a number of further facts may be added, some of them only recently recognised. There is the apparent paradox that the effective cause of the high proportion of the old is births rather than deaths. There is the economic principle that the dependency ratio ?the degree to which those who cannot earn depend for a living on those who can ?is more advantageous in older societies like ours than in the younger societies of the developing world, because lots of dependent babies are more of a liability than numbers of the inactive aged. There is the appreciation of the salient historical truth that the aging of advanced societies has been a sudden change.

If "revolution" is a rapid resettlement of the social structure, and if the age composition of the society counts as a very important aspect of that social structure, then there has been a social revolution

in European and particularly Western European society within the lifetime of everyone over 50. Taken together, these things have implications which are only beginning to be acknowledged. These facts and circumstances were well to the fore earlier this year at a world gathering about aging as a challenge to science and to policy, held at Vichy in France.

There is often resistance to the idea that it is because the birthrate fell earlier in Western and Northwestern Europe than elsewhere, rather than because of any change in the death rate, that we have grown so old. But this is what elementary demography makes clear.

Long life is alt-ring our society, of course, but in experiential terms. We have among us a very much greater experience of continued living than any society that has ever preceded us anywhere, and this

will continue. But too much of that lengthened experience, even in the wealthy West, will be experience of poverty and neglect, unless we do something about it.

If you are now in your thirties, you ought to be aware that you can expect to live nearly one third of the rest of your life after the age of 60. The older you are now, of course, the greater this proportion will be, and greater still if you are a woman. Expectation of life is a slippery figure, very easy to get wrong at the highest ages. At Vichy the demographers were telling each other that their estimates of how many old there would be and how long they will live in countries like England and Wales are due for revision upwards.

09-B. Children's Self-esteem

Self-esteem is what people think about themselves -- whether or not they feel valued -- and when family members have self-respect, pride, and belief in themselves, this high self-esteem makes it possible to cope with the everyday problems of growing up.

Successful parenting begins by communicating to children that they belong, and are loved for no other reason than just because they exist. Through touch and tone of voice parents tell their infants whether or not they are valued, special, and loved, and it is these messages that form the basis of the child's self-esteem. When children grow up with love and are made to feel lovable despite their mistakes and failures, they are able to interact with others in a responsible, honest, and loving way. A healthy self-esteem is a resource for coping when difficulties arise, making it easier to see a problem as temporary, manageable, and something from which the individual can emerge.

If, however, children grow up without love and without feelings of

self-worth, they feel unlovable and worthless and expect to be cheated, taken advantage of, and looked down upon by others. Ultimately their actions invite this treatment, and their self-defeating behavior turns expectations into reality. They do not have the personal resources to handle everyday problems in a healthy way, and life may be viewed as just one crisis after another. Without a healthy self-esteem they may cope by acting out problems rather than talking them out or by withdrawing and remaining indifferent toward themselves and others. These individuals grow up to live isolated, lonely lives, lacking the ability to give the love that they have never received.

Self-esteem is a kind of energy, and when it is high, people feel like they can handle anything. It is what one feels when special things are happening or everything is going great. A word of praise, a smile, a good grade on a report card, or doing something that creates pride within oneself can create this energy. When feelings about the self have been threatened and self-esteem is low, everything becomes more of an effort. It is difficult to hear, see, or think clearly, and others seem rude, inconsiderate, and rough. The problem is not with others, it is with the self, but often it is not until energies are back to normal that the real problem is recognized.

Children need help understanding that their self-esteem and the self-esteem of those they interact with have a direct effect on each other. For example, a little girl comes home from school and says, "I need lovings' cause my feelings got hurt today." The mother responds to her child's need to be held and loved. If instead the mother said she was too busy to hold the little girl, the outcome would have been different.

The infant's self-esteem is totally dependent on family members, and it is not until about the time the child enters school that outside forces contribute to feelings about the self. A child must also learn that a major resource for a healthy self-esteem comes from within. Some parents raise their children to depend on external rather than internal reinforcement through practices such as paying for good grades on report cards or exchanging special privileges for good behavior. The child learns to rely on others to maintain a high self-esteem and is not prepared to live in a world in which desirable behavior does not automatically produce a tangible reward such as a smile, money, or special privileges.

Maintaining a healthy self-esteem is a challenge that continues throughout life. One family found that they could help each other identify positive attitudes. One evening during an electric storm the family gathered around the kitchen table, and each person wrote down two things that they liked about each family member. These pieces of paper were folded and given to the appropriate person, who one by one opened their special messages. The father later commented, "It was quite an experience, opening each little piece of paper and reading the message. I still have those gifts, and when I've had a really bad day, I read through them and I always come away feeling better."

The foundation of a healthy family depends on the ability of the parents to communicate messages of love, trust, and self-worth to each child. This is the basis on which self-esteem is built, and as the child grows, self-esteem changes from a collection of other's feelings to become personal feelings about the self. Ultimately a person's self-esteem is reflected in the way he or she interacts with others.

10-A. The Campaign for Election

Although presidential elections occur every 4 years, many people feel that they do not have a true understanding of how presidential campaigns operate.

The winner in the November general election is almost certain to be either the Republican or the Democratic nominee. A minor-party or independent candidate, such as George Wallace in 1968, John Anderson in 1980, or Ross Perot in 1992 and 1996, can draw votes away from the major-party nominees but stands almost no chance of defeating them.

A major-party nominee has the critical advantage of support from the party faithful. Earlier in the twentieth century, this support was so firm and steady that the victory of the stronger party's candidate was almost a certainty. Warren G. Harding accepted the 1920 Republican nomination at his Ohio home, stayed there throughout most of the campaign, and won a full victory simply because most of the voters of his time were Republicans. Party loyalty has declined in recent decades, but more than two-thirds of the nation's voters still identify themselves as Democrats or Republicans, and most of them support their party's presidential candidate. Even Democrat George McCiovern, who had the lowest.

level of party support among recent nominees, was backed in 1972 by nearly 60 percent of his party's voters.

Presidential candidates act strategically. In deciding whether to pursue a course of action, they try to estimate its likely impact on the voters. During the 1992 campaign, a sign on the wall of Clinton's headquarters in Little Rock read, "The Economy, Stupid." The slogan was the idea of James Carville, Clinton's chief strategist, and was meant as a reminder to the candidate and the staff to keep the campaign focused on the nation's slow-moving economy, which ultimately was the issue that defeated Bush. As in 1980, when Jimmy Carter lost to Ronald Reagan during tough economic times, the voters were motivated largely by a desire for change.

Candidates try to project a strong leadership image. Whether voters accept this image, however, depends more on external factors than on a candidate's personal characteristics. In 1991, after the Gulf War, Bush's approval rating reached 91 percent, the highest level recorded since polling began in the 1930s. A year later, with the nation's economy in trouble, Bush's approval rating dropped below 40 percent. Bush tried to stir images of his strong leadership of the war, but voters remained concerned about the economy.

The candidates' strategies are shaped by many considerations, including the constitutional provision that each state shall have electoral votes equal in number to its representation in Congress. Each state thus gets two electoral votes for its Senate representation and a varying number of electoral votes depending on its House representation. Altogether, there are 538 electoral votes (including three for the District of Columbia, even though it has no voting representatives in Congress). To win the presidency, a candidate must receive at least 270 votes, an electoral majority.

Candidates are particularly concerned with winning the states which have the largest population, such as California (with 54 electoral votes), New York (33), Texas (32), Florida (25), Pennsylvania (23), Illinois (22), and Ohio (21). Victory in the eleven largest states alone would provide an electoral majority, and presidential candidates therefore spend most of their time campaigning in those states. Clinton received only 43 percent of the popular vote in 1992, compared with Bush's 38 percent and Perot's 19 percent; but Clinton won in states that gave him an overwhelming 370 electoral votes, compared with 168

for Bush and none for Perot.

10-B. The American Two-party System

No one now living in the United States can remember when the contest began between the Democratic and the Republican parties. It has been going on for more than a century, making it one of the oldest political rivalries in the world.

The American political system is a classical example of the two-party system. When we say that we have a two-party system in the United States we do not mean that we have only two parties. Usually about a dozen parties nominate presidential candidates. We call it a two-party system because we have two large parties and a number of small parties, and the large parties are so large that we often forget about the rest. Usually the small parties collectively poll less than 5 per cent of the vote cast in national elections.

The Democratic and Republican parties are the largest and most competitive organizations in the American community. They organize the electorate very simply by maintaining the two-party system. Americans almost inevitably become Democrats or Republicans because there is usually no other place for them to go. Moreover, because the rivalry of these parties is very old, most Americans know where they belong in the system. As a consequence of the dominance of the major parties, most elected officials are either Republicans or Democrats. Attempts to break up this old system have been made in every presidential election in the past one hundred years, but the system has survived all assaults.

How does it happen that the two-party system is so strongly rooted in American politics? The explanation is probably to be found in the way elections are conducted. In the United States, unlike countries with a parliamentary system of government, we elect not only the President, but a large number of other officials, about 800,000 of them. We also elect congressmen from single-member districts. For example, we elect 435 members of the House of

Representatives from 435 districts (there are a few exceptions), one member for each district. Statistically, this kind of election favors the major parties. The system of elections makes it easy for the major parties to maintain their dominant position, because they are likely to win more than their share of the offices.

One of the great consequences of the system is that it produces majorities automatically. Because there are only two competitors in the running, it is almost inevitable that one will receive a majority. Moreover, the system tends slightly to exaggerate the victory of the winning party. This is not always true, but the strong tendency to produce majorities is built into the system.

In over 200 years of constitutional history, Americans have learned much about the way in which the system can be managed so as to make possible the peaceful transfer of power from one party to the other. At the level of presidential elections, the party in power has been overturned by the party out of power nineteen times, almost once a decade. In the election of 1860, the political system broke down, and the Civil War, the worst disaster in American history, resulted. Our history justifies our confidence in the system but also shows that it is not foolproof.

The second major party is able to survive a defeat because the statistical tendency that exaggerates the victory of the winning party operates even more strongly in favor of the second party against the third, fourth, and fifth parties. As a result, the defeated major party is able to maintain a monopoly of the opposition. The advantage of the second party over the third is so great that it is the only party that is likely to be able to overturn the party in power. It is able, therefore, to attract the support of everyone seriously opposed to the party in power. The second party is important as long as it can monopolize the movement to overthrow the party in power, because it is certain to come into power sooner or later.

Another consequence of the two-party system is that whereas minor parties are likely to identify themselves with special interests or special programs and thus take extreme positions, the major parties are so large that they tend to be moderate. Evidence of the moderation of the major parties is that much business is conducted across party lines. What happens when the Democrats control one house of Congress and the Republicans control the other? About the same

volume of legislation is passed as when one party controls both houses, although some important legislation is likely to be blocked temporarily. It is possible to carry on the work of the government even when party control is divided because party differences are not fundamental.

11-A. Sacrificed to Science?

Professor Colin Blakemore works at Oxford University Medical School doing research into eye problems and believes that animal research has given humans many benefits:

The use of animals has been central to the development of anaesthetics, vaccines and treatments for diabetes, cancer, developmental disorders...most of the major medical advances have been based on a background of animal research and development.

There are those who think the tests are simply unnecessary. The International Association Against Painful Experiments on Animals is an organization that promotes the use of alternative methods of research which do not make animals suffer. Their spokesman Colin Smith says:

Animal research is irrelevant to our health and it can often produce misleading results. People and animals are different in their reactions to drugs and in the way their bodies work. We only have to look at some of the medical mistakes to see this is so.

But Professor Blackmore stresses:

It would be completely irresponsible and unethical to use drugs on people that had not been thoroughly tested on animals. The famous example of thalidomide is a case for more animal testing, not less. The birth defects that the drug produced were a result of inadequate testing. If thalidomide were invented today, it would never be released for human use because new tests on pregnant animals would reveal the dangers.

Another organization that is developing other methods of research is FRAME. This is the Fund for the Replacement of Animals in Medical Experiments. It recognises that many experiments still have to be done on animals and is aiming for Reduction, Refinement and Replacement of animals in experiments. In 1981, it established a research programme to improve and

expand non-animal testing. Increasingly, new technology is making it easier for us to find alternative methods of testing. Computer models can be used to simulate the way that cells work and to try to predict the toxicity of chemicals. Data from previous animal experiments is used to develop a computer model which will predict what will happen if you add a chemical with an unknown biological effect to a substance. The eventual aim of computer modeling is to reduce the number of animals used in experiments.

The Lethal Dose 50 test (LD50) may also be replaced. In the original test, all the animals in a test group are given a substance until half of them die. The test indicates toxicity. A method using a fixed amount, which gives the same eventual information but uses fewer animals and does not require that they die, may replace the LD50. Many other new techniques are now available that enable more research to be done in the test tube to see if chemicals produce harmful biological effects. The number of animals used in laboratory tests has declined over the last 20 years. This is partly due to alternatives and partly to the fact that experiments are better designed so fewer need to be used -- healthier animals provide better experimental results. For example, it used to take 36 monkeys to test a sample of polio vaccine, now it takes only 22. Also, lack of money has reduced the number of animals used --they are expensive to buy and expensive to keep.

Birmingham University now has Britain's first department of Biomedical Ethics. Professor David Morton of the department is involved in animal research and is concerned with reducing animal suffering as much as possible. Animals spend 95% of their time in their cages and refinement also means making their lives better when not undergoing tests. This includes keeping them in more suitable cages, allowing social animals like dogs to live together and trying to reduce the boredom that these animals can experience.

In Professor Morton's laboratory, rabbits live together in large runs, filled with deep litter and boxes that they can hide in. The researchers have also refined some experiments. In the US, one experiment in nerve regeneration involves cutting a big nerve in a rat's leg, leaving its leg paralysed. In Morton's lab, the researcher cuts a small nerve in the foot. He can see if it can regrow and the rat can still run around its cage.

Even with these new developments in research, only a tiny proportion of all

tests are done without using animals at some stage. The use of animals in experiments cannot stop immediately if medical research is to continue and consumer products are to be properly tested, and Professor Blakemore believes that sometimes there are no alternatives:

Wherever possible, for both ethical and scientific reasons, we do not use animals. But cells live in animals and we can only really see how they behave when they are inside animals. We cannot possibly reproduce in a test tube or a computer model all the complex reactions of the body to a drug or a disease. When it comes to research into heart disease and its effects on the body, or diseases of the brain for example, we do not have adequate substitutes for the use of animals.

As research techniques become more advanced, the number of animals used in experiments may decrease, but stopping testing on animals altogether is a long way away.

11-B. Let's Stop Keeping Pets

Pets are lovable, frequently delightful. The dog and the cat, the most favored of pets, are beautiful, intelligent animals. To assume the care for them can help bring out the humanity in our children and even in us. A dog or a cat can teach us a lot about human nature; they are a lot more like us than some might think. More than one owner of a dog has said that the animal understands everything he says to it. So a mother and father who have ever cared for pets are likely to be more patient and understanding with their children as well, and especially to avoid making negative or rude remarks in the presence of a child, no matter how young.

It is touching to see how a cat or dog -- especially a dog -- attaches itself to a family and wants to share in all its goings and comings. If certain animal psychologists are right, a dog adopts his family in a most literal way - taking it for granted that the family is the band of dogs he belongs to.

It is sometimes said that the cat "takes all and gives nothing." But is that

really true? A cat can teach us a valuable lesson about how to be contented, how to be serene and at ease, how to sit and contemplate. Whereas a dog's constant pleas for attention become, sometimes, a bit too much. Nevertheless it is the dog who can teach us lessons of loyalty and devotion that no cat ever knew.

So there's plenty to be said in favor of keeping pets. But with all that in mind, I still say let's stop keeping pets. Not that a family should kill its pets. Very few could bring themselves to do that. To be practical, I am suggesting that if we do not now have a pet we should not acquire one; second, that if we now have a pet, we let it be our last one. I could never say that pets are bad. I am saying, let's give up this good thing -- the ownership of a pet -- in favor of a more imperative good.

The purchase, the health care, the feeding and housing and training of a pet -- and I chiefly mean the larger, longer-lived pets -- cost time and money. Depending on the animal's size and activity, it's special tastes and needs, and the standard of living we establish for it, the care of a pet can cost from a dollar a week to a dollar or more a day. I would not for a moment deny it is worth that.

But facts outside the walls of our home keep breaking in on our awareness. Though we do not see the poverty-stricken people of India and Africa and South America, we can never quite forget that they are there. Now and then their faces are shown in the news, or in the begging ads of relief organizations. Probably we send a donation whenever we can.

But we do not, as a rule, feel a heavy personal responsibility for the afflicted and deprived for we are pretty thoroughly formed by the individualistic, competitive society we live in. The first dime we ever made was ours to spend in any way we chose. No one thought of questioning that. That attitude, formed before we had learned to think, usually prevails through our life: "I made my money. I can spend it any way I like."

But more and more we are reading that the people of the "Third World" feel bitter at us in the developed countries (with the United States far more developed than any of the others) for our seizing hold

of two-thirds of the world's wealth and living like kings while they work away all day to earn a bare living.

The money and the time we spend on pets is simply not our own to spend as we like in a time of widespread want and starvation. A relief organization

advertises that for \$33 a month they can give hospital care to a child suffering from kwashiorkor -- the severe deficiency disease which is simply a starving for protein. Doing without such a pet, and then sending the money saved to a relief organization would mean saving a life -- over the years, several human lives.

Children not suffering from such a grave disease could be fed with half that amount -- not on a diet like ours, but on plain, basic, life-sustaining food. It is not unreasonable to believe that the amount of money we spend on the average pet dog could keep a child alive in a region of great poverty. To give what we would spend on a cat might not feed a child, but it would probably pay for his medical care or basic education. The point needs no laboring. That is all that need be said.

12-A. Let Your Mind Wander

Until recently daydreaming was generally considered either a waste of time or a symptom of neurotic tendencies, and habitual daydreaming was regarded as evidence of maladjustment or an escape from life 担 realities and responsibilities. It was believed that habitual daydreaming would eventually distance people from society and reduce their effectiveness in coping with real problems. At its best, daydreaming was considered a compensatory substitute for the real things in life.

As with anything carried to excess, daydreaming can be harmful. There are always those who would substitute fantasy lives for the rewards of real activity. But such extremes are relatively rare, and there is a growing body of evidence to support the fact that most people suffer from a lack of daydreaming rather than an excess of it. We are now beginning to learn how valuable it really is and that when individuals are completely prevented from daydreaming, their emotional balance can be disturbed. Not only are they less able to deal with the pressures of day-to-day existence, but also their self-control and self-direction become endangered.

Recent research indicates that daydreaming is part of daily life and that a certain amount each day is essential for maintaining equilibrium. Daydreaming, science has discovered, is an effective relaxation technique. But its beneficial effects go beyond this. Experiments show that daydreaming significantly contributes to intellectual growth, powers of concentration, and the ability to interact and communicate with others.

In an experiment with schoolchildren in New York, Dr. Joan Freyberg observed improved concentration: "There was less running around, more happy feelings, more talking and playing in the group, and more attention paid to detail."

In another experiment at Yale University, Dr. Jerome Singer found that daydreaming resulted in improved self-control and enhanced creative thinking ability. Daydreaming, Singer pointed out, is one way individuals can improve upon reality. It is, he concluded, a powerful spur to achievement.

'But the value of daydreaming does not stop here. It has been found that it improves a person's ability to be better adapted to practical, immediate concerns, to solve everyday problems, and to come up more readily with new ideas. Contrary to popular belief, constant and conscious effort at solving a problem is, in reality, one of the most inefficient ways of coping with it. While conscious initial effort is always necessary, effective solutions to especially severe problems frequently occur when conscious attempts to solve them have been put off. Inability to relax, to let go of a problem, often prevents its solution.

Historically, scientists and inventors are one group that seems to take full advantage of relaxed moments. Their biographies reveal that their best ideas seem to have occurred when they were relaxing and daydreaming. It is well known, for example, that Newton solved many of his toughest problems when his attention was waylaid by private musings. Thomas Alva Edison also knew the value of "half waking" states. Whenever confronted with a task which seemed too hard to be dealt with, he would stretch out on his laboratory sofa and let fantasies flood his mind.

Painters, writers, and composers also have drawn heavily on their sensitivity to inner fantasies. Debussy used to gaze at the River Seine and the golden reflections of the setting sun to establish an atmosphere for creativity. Brahms found that ideas came effortlessly only when he approached a state of

deep daydreaming. And Cesar Frank is said to have walked around with a dreamlike gaze while composing, seemingly totally unaware of his surroundings.

Many successful people actually daydreamed their successes and achievements long before they realized them. Henry J. Kaiser maintained that "you can imagine your future,?and he believed that a great part of his business success was due to positive use of daydreams. Harry S. Truman said that he used daydreaming for rest. Conrad Hilton dreamed of operating a hotel when he was a boy. He recalled that all his accomplishments were first realized in his imagination.

"Great living starts with a picture, held in some person's imagination, of what he would like someday to do or be. Florence Nightingale dreamed of being a nurse. Edison pictured himself an inventor; all such characters escaped the mere push of circumstance by imagining a future so vividly that they headed for it? These are the words of the well-known thinker Dr. Harry Emerson Fosdick, and they show that people can literally daydream themselves to success. Fosdick, aware of the wonderful power of positive daydreaming, offered this advice: "Hold a picture of yourself long and steadily enough in your mind's eye, and you will be drawn toward it. Picture yourself vividly as defeated and that alone will make victory impossible. Picture yourself as winning and that will contribute remarkably to success. Do not picture yourself as anything, and you will drift like an abandoned ship at sea."

To get the results, you should picture yourself -- as vividly as possible -- as you want to be. The important thing to remember is to picture these desired objectives as if you had already attained them. Go over several times the details of these pictures. This will deeply impress them on your memory, and these memory traces will soon start influencing your everyday behavior toward the attainment of the goal.

While exercising your imagination, you should be alone and completely undisturbed. Some individuals seem to have the ability to tune into their private selves in the midst of the noisiest crowds or company. But most of us, especially when the experience is new, require an environment free from outside distraction.

A life lived without fantasy and daydreaming is a seriously impoverished

one. Each of us should put aside a few minutes daily, taking short 10- or 15-minute vacations. Daydreaming is highly beneficial to your physical and mental well-being, and you will find that this modest, inexpensive investment in time will add up to a more creative and imaginative, a more satisfied, and a more self-fulfilled you. It offers us a fuller sense of being intensely alive from moment to moment, and this, of course, contributes greatly to the excitement and joy of living.

12-B. To Sleep, Perchance to Dream

So you awoke this morning in a miserable mood. Well, maybe your special dream character didn't put in an appearance last night, or maybe there just weren't enough people drifting through your dreams.

If that sounds like far-fetched fantasy, consider these interesting findings that have emerged from eight years of sleep and dream research at the Veterans Administration Hospital in Cincinnati, Ohio:

While sleep affects how sleepy, friendly, aggressive, and unhappy we feel after awakening, feelings of happiness or unhappiness depend most strongly on our dreams.

Each of us has a special dream character, a type of person whose appearance in our dreams makes us feel happier when we awake.

What we dream at night isn't as important to how we feel in the morning as the number of people who appear in our dreams. The more people, the better we feel.

Our sleep influences our mood. Our mood, in turn, affects our performance. And throughout the day, our levels of mood and performance remain closely linked.

During the past two decades, research has greatly expanded our knowledge about sleep and dreams. Scientists have identified various stages of sleep, and

they have found that humans can function well on very little sleep, but only if they dream. Yet the true function of sleep and dreaming continues to elude precise explanation.

In 1970 Milton Kramer and Thomas Roth, researchers at the VA Hospital and the University of Cincinnati College of Medicine, respectively, raised this question: Do our moods in the morning relate in any way to our sleep and dreams the previous night?

Human experience suggests that they do. Certainly we generally feel better after a good night's sleep. But Drs. Kramer and Roth sought a much more definitive answer. And that answer, though still evolving, is a positive yes.

Kramer and Roth began by seeking to determine whether one's mood differs between night and morning, and whether this is related directly to sleep. They found that there is a difference, and it is definitely related to sleep. Then they explored the various aspects of mood and their relationship to the various stages of sleep and dreaming.

What does a good night's sleep mean to our mood? Generally we are happier, less aggressive, sleepier, and, a bit surprisingly, less friendly. Being sleepier is easily explained. It simply takes a little time to become fully alert after awakening.

But why should we feel less friendly? Here the researchers must speculate a little. They suggest the answer may be the lack of association with other humans during the period of sleep.

Once the two doctors established scientifically what common sense and folk wisdom had long taught -- namely, that there is link between sleep and how we feel -- they set out to learn what parts of our mood are related to which specific parts of the sleep cycle.

Normal sleep is broken into five distinct parts -- Stages 1 through 4, plus REM, an acronym for rapid eye movement. Much remains unknown about each of the five sleep stages. Most dreaming occurs during REM sleep, a period when the eyeballs move rapidly beneath the closed lids. And whether they remember or not, all adults dream, usually four to six times a night.

Three types of mood are strongly related to some specific stage of sleep. Our friendly, aggressive, and sleepy feelings all relate to Stage 2 sleep, which accounts for most of our total sleep hours. Our friendly and sleepy feelings, but

not our aggressive feelings, are affected as well by Stages 3 and 4, and by how long it takes us to fall asleep.

This means that if you get less sleep than normal ?and people vary a great deal in how much sleep they normally require -- you awake more friendly, more aggressive, and less sleepy.

At this point, the doctors found themselves puzzled. They knew from their earlier work that sleep determines if people feel happier. Yet when they studied the various sleep stages, they found no correlation between sleep physiology and the unhappy mood. Clearly sleep made a difference, but that difference didn't relate to how much time one spent in each of the various sleep stages.

The two researchers decided the key to whether we feel happy or unhappy after sleep must lie in sleep's psychological component -- our dreams. So they began studying dream content -- what dreamers dreamed and who appeared in their dreams -- to see how this affected mood.

Instead of sleeping through the night, volunteers now were awakened four times while in REM sleep. They were asked about such things as what their dreams were about; the sex, age, identity, and number of the people in their dreams; and what each person in a dream was doing.

Interestingly, Kramer and Roth found that being awakened four times a night didn't make a difference in the volunteers' morning mood patterns. But they did find that who appears in a dream has a far greater influence on mood than what occurs in the dream. "*Who* affects all the moods," Kramer says, "but primarily the unhappy mood."

Each of us, it turns out, has a special dream character, and if this type of character appears in our dreams, we are happier when we awake. "For people in general, how unhappy you feel after sleep depends on who is in the dream," Kramer says. "Who it is that makes you happier is different for you than for me." For some it may be an older woman, for example; for others, a young man.

Who appears in your dream isn't the only important thing. The more people who appear in your dreams the happier you are on awakening. It's a case of the more the merrier. "The bad thing in a dream is to be alone; you feel worse," Kramer explains. "You can relate this to wakening psychology, where being alone leads to more unhappiness. There is something about interacting with people that produces happiness."

A number of researchers have examined the relationship of mood and performance. The doctors also checked into this relationship, and they have found some interesting correlations.

"We found that the more friendly, more aggressive, more clear-thinking, less sleepy, and surprisingly, the more unhappy you are, the better you perform. That last one -- the unhappy -- I can't explain," Kramer says. Moreover, the level of a person's moods and the level of his or her performance rise and fall together throughout the day.

Initially the two VA researchers worked only with men, because the dreams of men are far easier to study. Men and women dream differently. Indeed, sex is the biggest factor in accounting for differences in the people, activities, locations and feelings that occur in dreams. Dr. Kramer says, "When you compare men and women, you get a greater difference in dream content than when you compare, say, 20 and 60-year-olds, or black and white."

Last year the VA researchers began studying the relationship of sleep, dreams, and mood in women. This work is continuing, but the initial findings reinforce what they had found in men.

"Overall, the women are just like men," Kramer says.

13-A. Work, Labor, and Play

So far as I know, Miss Hannah Arendt was the first person to define the essential difference between work and labor. To be happy, a man must feel, firstly, free and, secondly, important. He cannot be really happy if he is compelled by society to do what he does not enjoy doing, or if what he enjoys doing is ignored by society as of no value or importance. In a society where slavery in the strict sense has been abolished, the sign that what a man does is of social value is that he is paid money to do it, but a laborer today can rightly be called a wage slave. A man is a laborer if the job society offers him is of no interest to himself but he is compelled to take it by the necessity of earning a

living and supporting his family.

The antithesis to labor is play. When we play a game, we enjoy what we are doing, otherwise we should not play it, but it is a purely private activity; society could not care less whether we play it or not.

Between labor and play stands work. A man is a worker if he is personally interested in the job which society pays him to do; what from the point of view of society is necessary labor is from his own point of view voluntary play. Whether a job is to be classified as labor or work depends, not on the job itself, but on the tastes of the individual who undertakes it. The difference does not, for example, coincide with the difference between a manual and a mental job; a gardener or a cobbler may be a worker, a bank clerk a laborer. Which a man is can be seen from his attitude toward leisure. To a worker, leisure means simply the hours he needs to relax and rest in order to work efficiently. He is therefore more likely to take too little leisure than too much; workers die of coronaries and forget their wives' birthdays. To the laborer, on the other hand, leisure means freedom from compulsion, so that it is natural for him to imagine that the fewer hours he has to spend laboring, and the more hours he is free to play, the better.

What percentage of the population in a modern technological society are, like myself, in the fortunate position of being workers? At a guess I would say sixteen per cent, and I do not think that figure is likely to get bigger in the future.

Technology and the division of labor have done two things: by eliminating in many fields the need for special strength or skill, they have made a very large number of paid occupations which formerly were enjoyable work into boring labor, and by increasing productivity they have reduced the number of necessary laboring hours. It is already possible to imagine a society in which the majority of the population, that is to say, its laborers, will have almost as much leisure as in earlier times was enjoyed by the aristocracy. When one recalls how aristocracies in the past actually behaved, the prospect is not cheerful. Indeed, the problem of dealing with boredom may be even more difficult for such a future mass society than it was for aristocracies. The latter, for example, ritualized their time; there was a season to shoot grouse, a season to spend in town, etc. The masses are more likely to replace an unchanging ritual by fashion

which it will be in the economic interest of certain people to change as often as possible. Again, the masses cannot go in for hunting, for very soon there would be no animals left to hunt. For other aristocratic amusements like gambling, dueling, and warfare, it may be only too easy to find equivalents in dangerous driving, drug-taking, and senseless acts of violence. Workers seldom commit acts of violence, because they can put their aggression into their work, be it physical like the work of a smith, or mental like the work of a scientist or an artist. The role of aggression in mental work is aptly expressed by the phrase "getting one's teeth into a problem."

13-B. The Workman's Compensation

How can someone, hour after hour, day after day, year in and year out, tighten approximately the same nut to the same bolt and not go mad? That most working people do not, in fact, go mad is due in large measure to a phenomenon so common that it is found wherever people labor in industry: taking it easy. It would take some kind of real mental case to do all the work one could all day long. No one expects it. Taking it easy on the job while someone else covers your work, or "working on and off," as it is usually called in America, is an established part of the working life.

Working on and off, however, has its limits. The rules are infinitely varied, subtle, and flexible, and, of course, they are always changing. Management, up to a certain level at least, is aware of the practice, and in some industries employs entire cadres of people to curtail or put an end to it. Simultaneously, the workers are subtly doing their best to keep it going and to extend it wherever possible.

Every worker has a highly developed sense of how much work is expected of him. When he feels that the expectation is excessive, he tries to do something about it. This instinct has to do with the political nature of work itself,

something every modern worker understands. The bosses want more from the worker than they are willing to give in return. The workers give work, and the bosses give money. The exchange is never quite equal, and the discrepancy is called profit. Since the bosses cannot do without profit, workers have an edge. A good worker in a key spot could, so long as he kept up production, take all the coffee breaks he wanted, and the bosses would very likely look the other way. He could also choose to cut down on the coffee breaks, apply himself, and increase production, and then ask for and get more money. But that would be self-defeating, and he knows it. It would also place him in competition with other workers, which would be playing into the bosses' hands. What he would rather do is create some slack for himself and enjoy his job more.

At present on the West Coast, when a gang of longshoremen working on cargo start a shift, they often divide themselves into two equal groups and toss a coin. One group goes into the far reaches of the ship 担 hold and sits around. The other group starts loading cargo, usually working with a vengeance, since each one of them is doing the work of two men. An hour later, the groups change places. In other words, although my fellow longshoremen and I are getting paid for eight hours, on occasion we work only four. If someone reading this feels a sense of moral outrage because we are sitting down on the job, I am sorry. I have searched my mind in vain for a polite way to tell that reader to go to hell.

If you are that reader, I would recommend that you abandon your outrage and begin thinking about doing something similar for yourself. You probably already have, even if you won't admit it. White collar office workers, too, have come under criticism recently for robbing their bosses of their full-time services. Too much time is being spent around the Mr. Coffee machine, and some people (would you believe it?) have even been having personal conversations on company time. In fact, one office-system expert recently said that he had yet to encounter a business work place that was functioning at more than about 60 percent efficiency.

Management often struggles hard to set up a situation where work is done in series: a worker receives an article of manufacture, does something to it, and passes it on to another worker, who does something else to it and then passes it on to the next guy, and so on. The assembly line is a perfect example of this.

Managers like this type of manufacture because it is more efficient ?that is, it achieves more production. They also like it for another reason, even if they will not admit it: it makes it very difficult for the worker to do anything other than work.

Frederick W. Taylor, the efficiency expert who early in this century conducted the time-and-motion studies that led to the assembly-line process, tried to reduce workers to robots, all in the name of greater production. His staff of experts, each armed with clipboard and stopwatch, studied individual workers with a view toward eliminating unnecessary movement. They soon found a great deal of opposition from the workers.

Most people not directly engaged in daily work express disapproval when they hear of people working on and off. A studied campaign with carefully chosen language -- "a full day's work for a full day's pay,?" taking a free ride" -- has been pushed by certain employers to discredit the practice, and their success is such that I rarely discuss it except with other workers. My response is personal, and I feel no need to defend it: If I am getting a free ride, how come I am so tired when I go home at the end of a shift?

14-A. The Teacher's Last Shocking lesson

A remarkable woman reasons with her killer -- and tapes it

She used the miniature tape recorder for a graduate-school course she was taking. The device, though, would do much more than capture a lecture. It was a microcassette found in Kathleen Weinstein's shirt pocket that not only led police to her alleged killer but also revealed the New Jersey teacher to be a woman of extraordinary courage and compassion.

Weinstein, 45, was on her way to an exam at Toms River High School South on March 14 when she got out of her gold 1995 Toyota Camry to buy a sandwich at the busy Toms River Shopping Center. That's where her path crossed that of Michael LaSane, who, police say, wanted just such a car to

celebrate his 17th birthday. Grabbing Weinstein by the jaw, the attacker told her he had a gun and forced her into the Camry. The car was then driven to Manitou Park, about two miles from the shopping center. It was there, police believe, that Weinstein was able to activate the recorder she kept in her bag. According to Ocean County prosecutor Daniel Carluccio, the taped conversation between Weinstein and LaSane took place as they removed personal items -- bags, notebooks, her six-year-old son's belongings, from the car. "It wasn't hysterical," Carluccio says of the 24-minute tape. "It wasn't the kind of thing you would expect of someone who is facing a life-threatening situation. Mrs. Weinstein bravely and persistently used every skill and power she had to convince her attacker to simply take her car and not her life."

The excerpts of the talk released by the prosecutor show why Weinstein was a beloved figure at Thorne Middle School in Middletown, where she was a special-education teacher. "You haven't done anything yet," she tells her attacker. "All you have to do is let me go and take my car. For my life, don't you think I should be concerned and let you take my car? For my life! Do you really want to have that on your head?" At another point, the teacher tries to get him to open up. "Why don't you just tell me? Of course, it's important. It's determining your whole life and the direction you're taking." Weinstein also talks about her son Daniel and her plans to take in a foster child with her husband Paul. "I want to give something to somebody, to give something back," she says.

Her powers of persuasion were to no avail. Weinstein's body, with hands and feet bound, was discovered by a hiker on March 17. She had been smothered with her coat. But before she died she somehow slipped the microcassette into her pocket without her killer knowing it. Because Weinstein had asked LaSane about himself and his family, police quickly had their suspect, the son of a local official. "Our impression was that she was very aware she was leaving something behind," says Carluccio. He will not comment on LaSane's side of the conversation except to say, "When you hear the tape, it will raise profound questions about what is happening in our world with juveniles and our society. It goes beyond materialism."

Weinstein also helped leave behind a new program at Thorne Middle School in which students were encouraged to do nice things for others. Every morning Weinstein would announce various good deeds over the p.a. system and

she solicited prizes from local merchants and restaurants. Given her fate, the name of the program has a heartbreaking resonance to it: Random Acts of Kindness.

14-B. The Seeds of Wrath

The world knows a great deal about apartheid. It knows it as a repressive political system which denies political representation to 14,000,000 South Africans because they are not white; it knows it as a divisive social system which keeps people apart, dividing them on colour lines and punishing those who try to cross these lines. But the effects of apartheid in terms of social behaviour and on cultural development are less well known.

To understand the effects of apartheid it is necessary to think of the daily lives of the people and the ways in which their lives are regulated by apartheid.

It means standing for hours in a bus-queue, because there are too few buses specially set aside for black people; it means having to pass theatres and swimming pools with no thought of ever entering them, because they are set aside for white people, and because the restrictions extend to the thoughts people think, and because the laws apply to both black and white, it means that all people in South Africa are denied the right to read certain books because (the government believes them to be subversive of its apartheid society.

Apartheid means that sportsmen like Basil D'Oliviera, Steve Makone, and Precious Mackenzie could never represent their own country because they were not white; that singers and actors like Miriam Makeba and Lionel Ngamane would be restricted because of their colour to appearing in certain places and before certain audiences -- a coloured cast could perform Verdi's "La Traviata" but no non-whites could attend a performance before the State President.

The list of restrictions is endless -- these are only a few small examples. But what they add up to is a division which breeds hostility. At sports events, if white and black are present, they support opposing sides and the result is friction

-- so much so that in many grounds only whites are allowed.

It is illegal for white and black to play chess together. And whites whv tried to play football in a team with black members were prosecuted.

And in a society where these ugly barriers exist, it is better to pretend that they are not there. The result is that the writers and poets of white South Africa are incapable of producing any work which truthfully reflects their society; and so deep has this kind of blindness entered that no work of any real worth has been produced in South Africa for many years.

Perhaps one might expect the writers among the blacks, in a situation full of tension and pain, to produce works which live. But for them apartheid presents another problem; to be frank is to be banned. And so writers like Alex la Guma were silenced by banning orders, or others, like Alfred Hutchinson and Bloke Modisane fled the country. Fear Nat Nakasa the pledge he was required to sign -- to leave his country and never return proved too much; he committed suicide in New York.

Even white writers -- Andre Brink, for instance -- who have dared to criticise, or appear to criticise, the apartheid society have suffered. I heir works have' been banned, or they have been savagely attacked by the official spokesmen of apartheid.

The failure of writers to write, or of people to understand each other -- all these are indications of the deeper evil; the failure of communication. But what is little understood by the outside world is that this is a failure legislated for. It is a failure which has been carefully designed.

It is the intention of those who have constructed the apartheid society, and who intend that it should last forever, that those who make up the society should be prevented from communicating with each other. Black and white must be cut off from each other, must be unable to communicate. It is on this division that apartheid rests This is the true meaning of apartheid. And it is this that inflicts the terrible wound on South African society.

But the real damage is in daily human relations. I have seen white children standing in one of the mixed buses rather than sit beside anyone who was not white and this seems to me so complete a rejection of another human person that it goes much further than the division and separation backed by law. From this kind of rejection comes a complete lack of any feeling of common humanity; the

suffering of a human being ceases to be real because he has ceased to be a real human being.

This is the situation which has been created in South Africa today. The tensions are real, the threat of a violent eruption constant. And this must not be thought of simply as the product of political factors or arguments. It is a simple truth that human relations between people have deteriorated so far that dialogue, understanding, friendship -- all these are impossible.

This is the effect of apartheid in terms of the society -- this is its all pervasive extent: it breeds, if it breeds anything, hostility: often the result is simply the bitter sterility which will bring about violence.

15-A. The Computer and The Poet

The essential problem of man in a computerized age remains the same as it has always been. That problem is not solely how to be more productive, more comfortable, more content, but how to be more sensitive, more sensible, more proportionate, more alive. The computer makes possible a marvellous leap in human proficiency; it pulls down the fences around the practical and even the theoretical intelligence. But the question persists and indeed grows whether the computer will make it easier or harder for human beings to know who they really are, to identify their real problems, to respond more fully to beauty, to place adequate value on life, and to make their world safer than it now is.

Electronic brains can reduce the profusion of dead ends involved in vital research. But they can't eliminate the foolishness and decay that come from the unexamined life. Nor do they connect a man to the things he has to be connected to -- the reality of pain in others; the possibilities of creative growth in himself; the memory of the race; and the rights of the next generation.

The reason these matters are important in a computerized age is that there may be a tendency to mistake data for wisdom, just as there has always been a tendency to confuse logic with values, and intelligence with insight. Easy and convenient access to facts can produce unlimited good only if it is matched by the desire and ability to find out what they mean and where they would lead.

Facts are terrible things if left spreading and unexamined. They are too easily regarded as evaluated certainties rather than as the rawest of raw materials crying to be processed into the texture of logic. It requires a very unusual mind, Whitehead said, to undertake the analysis of a fact. The computer can provide a correct number, but it may be an irrelevant number until judgment is pronounced.

To the extent, then, that man fails to distinguish between the intermediate operations of electronic intelligence and the ultimate responsibilities of human decision, the computer could prove a digression. It could obscure man's awareness of the need to come to terms with himself. It may foster the illusion that he is asking fundamental questions when actually he is asking only functional ones. It may be regarded as a substitute for intelligence instead of an extension of it. It may promote undue confidence in concrete answers. "If we begin with certainties," Bacon said, "we shall end in doubts but if we begin with doubts, and we are patient with them, we shall end in certainties."

The computer knows how to conquer error, but before we lose ourselves in celebrating the victory, we might reflect on the great advances in the human situation that have come about because men were challenged by error and would not stop thinking and exploring until they found better approaches for dealing with it. "Give me a good fruitful error, full of seeds, bursting with its own corrections," Ferris Greenslei wrote, "You can keep your sterile truth for yourself."

The biggest single need in computer technology is not for increased speed, or enlarged capacity, or prolonged memory, or reduced size, but for better questions and better use of the answers. Without taking anything away from the technicians, we think it might be fruitful to effect some sort of junction between the computer technologist and the poet. A genuine purpose may be served by turning loose the wonders of the creative imagination on the kinds of problems being put to electronic technology. The company of poets may enable the men who tend the machines to see a wider range of possibilities than technology alone may inspire.

A poet, said Aristotle, has the advantage of expressing the universal; the specialist expresses only the particular. The poet, moreover, can remind us that man's greatest energy comes not from his dynamos but from his dreams. But the

quality of a man's dreams can only be a reflection of his subconscious. What he puts into his subconscious, therefore, is quite literally the most important nourishment in the world.

Nothing really happens to a man except as it is registered in the subconscious. This is where event and feeling become memory and where the proof of life is stored. The poet -- and we use the term to include all those who have respect for and speak to the human spirit -- can help to supply the subconscious with material to enhance its sensitivity, thus safeguarding it. The poet, too, can help to keep man from making himself over in the image of his electronic wonders. For the danger is not so much that man will be controlled by the computer as that he may imitate it.

The poet reminds men of their uniqueness. It is not necessary to possess the ultimate definition of this uniqueness. Even to speculate on it is a gain.

15-B. Changes to Come in U. S. Education

The biggest "infrastructure" challenge for the United States in the next decade is not the billions needed for railroads, highways and energy. It is the American school system, from kindergarten through the Ph.D. program and the postgraduate education of adults. And it requires something far scarcer than money -- thinking and risk-taking.

The challenge is not one of expansion. On the contrary, the rapid growth in enrollment over the last 40 years has come to an end. By 1978, more than 93 percent of young people entering the labor force had at least an eighth-grade education. So even if the birthrate should rise somewhat, little expansion is possible for elementary and secondary school enrollments.

The last 30 years of social upheaval are also over. Busing will continue to be a highly emotional issue in a good many large cities. And there will still be efforts to use schools to bring women into fields such as engineering that have traditionally been considered "male." But this shift has already been accomplished in many fields: half or more of the accounting students in graduate schools of business, for example, are now women. As for most other social issues, the country will no longer try to use schools to bring about social reform.

It's becoming increasingly clear to policy makers that schools cannot solve all the problems of the larger community.

Instead, the battle cry for the '90s will be the demand for performance and accountability. For 30 years, employers have been hiring graduates for their degrees rather than their abilities; employment, pay and often even promotion have depended on one's diploma. Now many major employers are beginning to demand more than the completion of school. Some of the major banks, for example, are studying the possibility of entrance examinations that would test the knowledge and abilities of graduates applying for jobs.

Students and parents, too, will demand greater accountability from schools, on all levels. It will be increasingly common to go to law against school districts and colleges for awarding degrees without imparting the skills that are supposed to go along with them. And many young people are already switching to practical "hard" subjects. Caring little about the so-called "youth culture" and the media, they have been shifting from psychology into medicine, from sociology into accounting and from black studies into computer programming.

Demand for education is actually going up, not down. What is going down, and fairly fast, is demand for traditional education in traditional schools.

Indeed, the fastest growing industry in America today may be the continuing professional education of highly schooled adults. Much of it takes place outside the education establishment -- through companies, hospitals and government departments that run courses for managerial and professional employees; or through management associations and trade associations. In the meantime, any number of private enterprises are organizing courses, producing training films and tapes and otherwise taking advantage of growth opportunities that universities shy away from.

The demand for continuing education does not take the form that most observers, including this writer, originally expected -- namely, "Great Books" classes for adults wanting to learn about the humanities, the arts, the "life of the mind." We face instead a growing demand for advanced professional education: in engineering and medicine, in accounting and journalism, in law and in administration and management.

Yet the adults who come back for such studies also demand what teachers of professional subjects are so rarely able to supply: a humanistic perspective

that can integrate advanced professional and technical knowledge into a broader universe of experience and learning. Since these new students also need unconventional hours -- evenings, weekends or high-intensity courses that stuff a term's work into two weeks ?their demands for learning bring a vague but real threat to the school establishment.

The greatest challenge to education is likely to come from our new opportunities for diversity. We now have the chance to apply the basic findings of psychological, developmental and educational research over the last 100 years: namely, that no one educational method fits all children.

Almost all children are capable of attaining the same standards within a reasonable period of time. All but a few babies, for instance, learn to walk by the age of two and to talk by the age of three, but no two get there quite the same way.

So too at higher levels. Some children learn best by rote, in structured environments with high certainty and strict discipline. Others gain success in the less structured "permissive" atmosphere of a "progressive" school. Some adults learn out of books, some learn by doing, some learn best by listening. Some students need prescribed daily doses of information; others need challenge and a high degree of responsibility for the design of their own work. But for too long, teachers have insisted that there is one best way to teach and learn, even though they have disagreed about what that way is.

A century ago, the greatest majority of Americans lived in communities so small that only one one-room schoolhouse was within walking distance of small children. Then there had to be "one right method" for everybody to learn.

Today the great majority of pupils in the United States (and all developed countries) live in big cities with such density that there can easily be three or four elementary schools -- as well as secondary schools within each child's walking or bicycling distance. This enables students and their parents to choose between alternative routes to learning offered by competing schools.

Indeed, competition and choice are already beginning to infiltrate the school system. Private schools and colleges have shown an unusual ability to survive and develop during a period of rising costs and dropping enrollments elsewhere. All this presents, of course, a true threat to the public school establishment. But economics, student needs and our new understanding of how

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people learn are bound to break the traditional education monopoly just as trucks and airplanes broke the monopoly of the railroads, and computers and "chips" are breaking the telephone monopoly.

In the next 10 or 15 years we will almost certainly see strong pressures to make schools responsible for thinking through what kind of learning methods are appropriate for each child. We will almost certainly see great pressure, from parents and students alike, for result-focused education and for accountability in meeting objectives set for individual students. The continuing professional education of highly educated adults will become a third tier in addition to undergraduate and professional or graduate work. Above all, attention will shift back to schools and education as the central capital investment and infrastructure of a "knowledge society."