

THE HUMAN ELEMENT IN EXPLORATION*

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WHEN considering the human element in exploration I think one should take account of two things: firstly, a man's mental approach to what he does—for this will govern his personal contentment and his contribution to the happiness of his group—and secondly, his potential physical endurance under conditions of hardship or stress. I shall be referring to both these aspects.

I am often asked what it is that makes a man wish to explore, and—more pertinently—what are the necessary qualities which enable him to do so effectively. These are difficult questions to answer, and there must certainly be many opinions—indeed, different answers.

First of all let us examine the difference between "exploration" and "travel"—or, if you prefer—an explorer and a traveller. It seems to me that in this context the term "traveller" should be confined to one who intends to visit places new to him, and to learn personally from what he sees. In such a case there is no necessity to record or to report, for the purpose is one of self-education.

On the other hand, to explore implies the discovery of something which is not only new to the individual, but also to mankind. (Here one must make some qualification, for clearly the people who live in a country—as for instance the inhabitants of Africa before Mungo Park, Livingstone and Stanley—were acquainted with their own environment.) The implication is that exploration means the discovery, recording and *publication* of new information. You will notice that I do not confine exploration to the original geographical meaning, but look upon it in the wider sense as including discovery in the numerous scientific disciplines, as long as the work is associated with a little-known geographical area.

Today it is usual for expeditions to consist of a number of people, not all of whom are making *individual* contributions to knowledge. It is the product of the team that produces the exploration, and the wireless operator or the diesel mechanic plays his part in the result as much as the scientist or the surveyor.

In the light of this it is clear that in addition to some feeling for adventure, which is surely necessary to any form of travel, the explorer, or the exploratory group, must be imbued with a very definite sense of curiosity. Indeed, a great part of man's advance in knowledge has been due to this characteristic. It is one which is developed in individuals to a greater or a lesser degree, and normally one may expect it to be put to more effective use in communities having a higher standard of education.

In the past, and even today where education is limited, there has been a tendency to stifle curiosity by catch phrases suggesting that there was no need to look for answers to natural phenomena.

"If God had intended me to know this, or to do that, He would have provided for it" or,

"What was good enough for my father is good enough for me."

"It is useless to fly in the face of Nature."

All remarks of this type are resistant to progress, and constitute a lazy man's apologia for doing nothing, and what is more, not wishing to think that anybody else is making any advance; for it might disturb the existing order of things and involve unwelcome readjustments.

Do not misunderstand me. I am not a rabid progressive. Indeed, I am highly conservative in approach to life, but to inhibit curiosity, and the imagination that goes with it, is merely to delay uselessly the potential advance of knowledge.

Now that I have mentioned imagination, may I say that this too seems to me to form part of the essential make-up of the explorer. With a basic curiosity, quickened by imagination one may hope that there is some ability to interpret the unusual or the unknown. At the same

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time it is very necessary to have a balanced outlook—and not allow too lively an imagination to take charge, for this will quickly bring one into the realm of the impractical.

An explorer's way of life is an essentially practical one. There is no room for the man who lives by theories, who cannot improvise when some equipment is lacking, or is what I call a "bright ideas boy". This is a person who is constantly producing impractical answers to practical problems. Perhaps this tendency is due to the combination of a lack of knowledge and experience with an urge to appear as a man of originality.

From this you will realize that exotic or extreme ideas are undesirable qualities unless they are accompanied by the faculty of judgement. The spark of genius is all very well, and in the laboratory it is a valuable quality for it may bring a great advance. If it does not, no harm is done. But in the wilder parts of the world there is little room for experiment and error. Judgement, which involves a certain degree of caution and a very definite appreciation of consequences, is of paramount importance.

So far I have indicated the need for curiosity and imagination, tempered with good judgement; but in dealing with Nature and the infinitely variable circumstances which she can present, an almost instinctive assessment of the problems is necessary. To introduce "instinct" is dangerous for the meaning is as difficult to define as is the state of being "accident prone". But surely instinct implies "being in tune with Nature" or, in other words, being able to integrate and subconsciously to assess the various factors in a situation. Those who have this capability may not even know that they have it, nor could they explain it—but we recognize that they are valuable in an emergency and generally appear to be in harmony with their companions and the circumstances of the moment.

This leads me to one of the most important things—the personality of the individual. I suggest that there are two different situations in which different characteristics are of paramount importance; but this is not to say that one person cannot be successful in both sets of circumstances. In the first instance we have those who travel in populated areas where it is quite essential to be alive to the sensibilities of the inhabitants. To travel efficiently, happily and profitably one must be acceptable to the local people. To this end it is as well to have what would be known on the Continent as a *sympathique* nature. But above all it is necessary to have a transparent integrity and entirely natural behaviour. Any hint of play-acting or assumed superiority will be quickly recognized, and make for strained relations.

These basic characteristics cannot be assumed. They are either inherent or lacking in the make-up of the individual. In one's own community any such lack is automatically observed and allowances are made, but the people of other nations—and particularly of the less sophisticated sections—cannot be expected to be so tolerant. No traveller or explorer who pretends to be more than he is can hope to be successful, for people leading a simple life have an acuity which penetrates all forms of pretence.

In the second case I think of those who explore in uninhabited areas. In such places a man must remain on good terms with his few companions, and this is not always as easy as it may sound, for life becomes extremely parochial and small matters are liable to assume great importance. Here again pretence of any sort is valueless, for his fellows will immediately recognize it, and Nature herself takes no account of the unreal.

So we are back to the basic values of honesty and realism. I am convinced that any departure from these only leads to self-deception and an inability to cope with the vicissitudes of Nature. I conclude that whether travelling in populated or unpopulated regions, personal integrity, a balanced outlook, and a sense of realism are essential to success.

Having said this let me turn to the selection of men for an expedition. Either the leader has initiated the project, or he has been appointed to see it through. In either event it is necessary that he has the required qualities, and that his companions are chosen for the same reason. Clearly it is desirable that the leader takes part in the selection of his men, or at least that he has a veto. This ensures that he feels able to get along with each individual and they with him. This in turn means that throughout the group there are common factors which promote mutual understanding, and consequently the chances of success are enhanced.

I find it difficult to speak about leadership, but I think perhaps some reference to it is necessary in this context. I would say that men must have confidence in their leader, and it is also a good thing if they like him personally. They must have confidence that he will not

regard any small mistake, or something minor which goes wrong, as of great importance. They must know that if trouble comes he will be resourceful rather than rattled. They must feel that he tries to understand them, and that he will settle their problems impartially—whether they be between themselves or between an individual and *himself*. In short he must be just.

I would go so far as to say that the effectiveness of every individual in a party is not only conditioned by the personal factors I have been speaking about, but also by the community spirit—and this is inevitably bound up with the leader's personality. Each leader is different, and will have a different approach to the problem; but whatever he does will have an overriding effect on the performance of his party, and therefore on the ultimate degree of their success.

Any expedition member should enjoy good physical health, but sheer brute strength is by no means a necessity. What is needed is endurance, and very often men of relatively light physique are more capable of this than their bigger brothers.

How much endurance depends on bodily strength, and how much on mental qualities is worth examining. One man may have the strength, but not the willpower to use it. Another may have great determination, but insufficient strength. Some time ago I heard Dr. Edholm of the Medical Research Council tell a story which illustrates the power of mind over muscle. Dr. Paul Schwab, of Boston, investigated the effects of the coco leaf, which is chewed by certain South American natives in the belief that it prevents fatigue. His experiment was to arrange for a number of men to hang by the hands from a beam. At first they hung for five minutes; after eating the leaf they hung for six minutes. Next he harangued them on patriotism, calling on their loyalty as good Americans to do better. They then hung on to the beam for eight minutes. But when he produced a 20-dollar bill and said that he who hung on the longest would get it—the winner clocked a time of 15 minutes!

This seems to indicate very clearly that until the mental faculties had been invoked to provide real determination, only a part of their potential physical strength was being used. But perhaps one can still go back one more step. It requires a reason—in this case the 20-dollar bill—to invoke the determination, which will in turn drive the muscles to do more work than could otherwise be obtained.

Now the physiologist carries out his experiments with the object of finding the point of physical failure—whether it be by death, fainting, or the failure of some part of the body. From the practical point of view of the user of human material, that is men, it is not the point of complete failure that one wishes to establish. Long before that the man concerned will have ceased to be a useful individual. Indeed, in remote places he becomes a liability, requiring the resources of the remainder to preserve him, thereby preventing the accomplishment of the task in hand.

It is for this reason that in selecting men to go to out-of-the-way places—and particularly to polar regions—a leader should first satisfy himself that he is a physically sound specimen, and then pay attention to his character—looking particularly for mental stability. This is not only because a man must be able to get on with his fellows and not be a nuisance, but also because he must be able to endure inconvenience and frustration, often produced by extremes of temperature and wind, besides other natural factors.

Again, men must be able to adjust themselves to injury or exhaustion. If there is a steadiness of mind, it means that a man suffering from either of these will not be diverted from what he intends to do—or at the worst, he will be in a better position to endure until he is able to continue the task. I believe that a calm nature allows the individual to continue until he approaches nearer to the limit of his own physical tolerance. Just as there is a threshold of pain—which is different in each person—so there must be a different level of physical tolerance for each individual, which will vary with the particular circumstances. What one must aim at is to get as near as possible to that limit of tolerance without failing, and a steady mental equilibrium will, I believe, enable a man to do so.

Let me now try to show you what I think to be the interplay of mental and physical characteristics in an individual. Although I am now going to speak with the Antarctic environment in mind, it seems to me that a similar—although somewhat more complex—state of affairs exists in any country, and probably in any walk of life.

First of all a man who sets out to perform a task has some *Intention*, and he expects some degree of *Accomplishment*. Between these two stands a complex interplay of physical and mental characteristics; some of these inherited and some acquired during his lifetime. Now the *Intention* can only be converted into *Accomplishment* by the determination which the individual possesses. Undoubtedly this is varied during the performance of the task, both by the emotions invoked at different stages and by outside factors. This is where emotional stability plays its part, integrating the physical and mental factors which make up the individual's competence. Of course, I cannot list or evaluate all these factors, but I will refer to four main heads—two physical and two mental:

INHERENT PHYSICAL TOLERANCE
DEGREE AND DURATION OF STRESS
WILLINGNESS TO LEARN
APTITUDE TO THE TASK

Inherent physical tolerance is what we may call the "built-in" tolerance of the individual for any factor such as temperature, altitude or pain. When speaking of tolerance one infers a stress—in this case a physical stress—which will not only have a degree, but a duration; and the duration may provide the greater part of the stress.

Willingness to learn is an attitude of mind which is to be found not only in every student but in every adult. I would go as far as to say that anyone who is prepared to admit that they are too old to learn, should not become travellers—and certainly not explorers. Undoubtedly the contribution which this factor makes to the success of an individual is great. I would also suggest that this willingness is greater when emotional stability is high, and less when that stability is low.

Aptitude to the task I have here used as a mental factor, but there is also a physical aptitude. In either sense the skill implied is likely to be based on an inherited quality which has been modified by training and experience.

Taking these four factors together, I suggest that their interplay with a man's emotional stability (either inborn or acquired by personal discipline) provides a degree of competence. Normally a man will not be aware of these factors which influence his conduct, but sub-consciously—and very often consciously too—he does become aware of his degree of competence, which may be greater but is more often less than he had expected. This competence is inevitably affected by what I will call manipulation time. This takes account of restrictions such as heavy cumbersome clothing, thick gloves, and other factors like numbed fingers or misted snow goggles, which makes the performance of a task a far lengthier and more laborious business than it would be in more temperate conditions.

At this stage our subject is probably beginning to feel the strain, for having become aware of his competence, he is now frustrated by the difficulties of manipulation—and begins to realize what is likely to be his degree of success. Consequent on this he becomes either happy or dissatisfied with his position. If he is dissatisfied, it is all the more important that he can call upon a stable emotional state of mind to see him through. What he can pull out of the bag in this respect will determine the final degree of his *Accomplishment*.

The argument presented can, I think, be applied equally to a very simple *Intention*, such as the short-term object of pitching a tent, or to a major *Intention*, like joining an expedition and remaining a useful member of it for a period of time. If a man is not happy about his expectation of success, or if he feels that he is going to be unsuccessful, he will become dejected, and may even reach a stage of melancholia. In that event he becomes a useless member of the community. On the other hand, if he thinks "I'm doing jolly well—this is easy", he will tend to be rash in the next job that he has to tackle. In difficult or dangerous situations that is one thing you cannot afford to be—neither can you afford to be over-confident. Therefore, here again it is a great advantage to have a stable outlook which prevents one from having either a depressed or an exalted state of mind. This means that the emotional ups and downs must be smoothed out so that a certain degree of *Accomplishment* is attained. Perhaps under severe conditions the *Intention* will not be fulfilled, but at least there will be sufficient *Accomplishment* to have justified one in setting out on the task.

I think I should also point out that the age of the individual can be very important. Youth

—and I am thinking of 20 to 25 years—certainly has the necessary physical fitness and strength, which is an advantage for short periods of extreme exertion. But if the exertion is to be prolonged, and possibly involves a degree of boredom, then I think it is more likely that the older man will fill the bill better.

I personally have tended to choose 30- to 35-year-old men for longer journeys. This does not mean that the young ones cannot succeed—of course they do—but on a long journey where endurance is involved and impatience must not be, the pace is more suited to the older man. He is still physically fit, and he has experienced what he can and what he cannot do. It is also probable that he knows the techniques of travel to some extent, and he is skilled in whatever his particular task may be. One hopes he is stable in mind and will endure. One is indeed fortunate if one gets *all* these qualities in a young man.

Beyond 35 (and I am 54) there is a severe risk of the man not being physically fit, or having taken to the fleshpots and having acquired his own way of life. There is a risk that over that age he will have settled in his mind what he thinks he can do, what he intends to do, how much effort he will put out, and what he thinks are his rights, comforts and so on.

I would like to tell you a story. I once had a young dog that I wished to introduce into a sledging team. He was about one year old (the optimum age for a working dog is three years and they can be run up to six or seven years), and he had not done any real work. This dog was put into the team and when we left on a short journey he ran for an hour pulling his heart out. At the end of this time he could only pad along quite exhausted, and the older and more experienced dogs had to do his work for him. It took two journeys of more than 100 miles each before he learnt how to conserve his strength, when to rest and when not to work too hard. Thereafter he was able to keep going for long periods and take his share with the other dogs. Many young and inexperienced men behave exactly like that young dog. They require experience before they can use their strength to the best advantage.

Another aspect I should mention is the difference between the attitude of men who have voluntarily committed themselves to take part in an expedition, and the men of an army detailed to endure in similar natural conditions. The expedition men are specially selected, and they have a special personal interest. This enables them to put up with uninteresting food, inconvenience and unpleasant conditions. The men in the army will tend to have little interest in the immediate cause—which may indeed be obscure to them. They are therefore far more inclined to take an interest in their food and personal comfort. This lack of interest in the project upon which they are engaged will reduce their endurance below that of the expedition men in comparable climatic conditions.

Considerations of this sort are of great importance when trying to attain efficiency. One looks for men who want to go, with their whole heart in the job. Each man must be certain of himself, and have no feeling of “wanting to prove himself to himself”—that is asking for trouble. With his heart in a project one can be sure that his mind will drive his body to endure to a point closer to the limit of physical tolerance than can otherwise be expected.

I would emphasize that there is both academic interest and practical value in acquiring knowledge of man's ultimate endurance. Undoubtedly, we have to discover the physical extremes to which the body can be subjected; but the real need—at any rate for my purpose—is to know the extent of a man's competent existence, that is, mental and physical competence for the purpose in hand. From such an assessment it may be possible to determine whether an individual is going to become a liability, or even a danger. I do not want to know when he is going to die—for long before that I have to pull him out of the mess.

Physiology produces tests and figures to show ultimate endurance, but to assess competent existence psychology must play its part. This does not mean that each volunteer must undergo a psycho-analytical study, but it does mean that those who select men for expeditions must take into account the whole personality.

During the last two years I have read psychiatric reports on American, Australian and British polar parties. I have also discussed the problems of isolation with both Argentinian and French students of the subject. As a result I am convinced that it is unwise to apply the conclusions deduced from a study of one nationality to the men of another. Whether a psychologist would agree with this I am not able to say, but from their approach and their deductions it seems that the importance of various factors varies from one nation to another.

Of course, there are general problems which arise in all isolated groups, whatever their nationality, but there are many which do not seem to overlap at all. I am happy to say that the British seem particularly adaptable to expedition life.

However, there has recently been a certain amount of pressure on us to send psychologists south with our parties. In most cases I think the psychologist would find it a very difficult study to make, for he would be bound to suffer from the remainder of the group, and they would be upset by his presence. I have therefore stood firmly against including them in our teams.

In 1958, with the Trans-Antarctic Expedition, I arrived at the American station established at the South Pole. The leader, who was a medical man, told me that he had received a sheaf of psychological questionnaires which were to be issued to each of the 18 men at his base. At the end of the year they were to fill in one form about each of their companions. Imagine the situation! Think of Joe arguing with Abe and saying:

"You say that again and you know what I'll put down about you!"

No—this method could cause much ribaldry and a lot of serious dissension within an isolated group. It certainly did not appeal to the station commander, and I feel sure he was wise enough to forget all about it.

I think a possibly successful method might be to take someone—say a doctor—who had served a year or two as a *normal* member of an Antarctic base, train him in psychology, and send him back south in the guise of a normal medical officer. In this way he would understand and be experienced in the way of life before he had psychological know-how; the community would not be playing for his benefit, and he would have a balanced point of view so far as one man can. Yet this is really cheating the community, and inevitably there would be the difficulties when he came to publishing his results, for everyone is recognizable to his companions when described, even if letters or numbers are substituted for the name.

I have referred to the influence exerted by an expedition leader, and to various characteristics which influence both him and his men as individuals. Let us now look at them as a group and consider the influence of certain matters on morale.

At first all is new—local conditions, climate and the expedition community itself. Everyone is busy adjusting himself to his companions and to the problems of living and doing his work. But behind all this is the inborn sense of competition, together with an urgent need to be appreciated. As the party settles down and a routine is established, the more enterprising will subconsciously, or sometimes even consciously, set about establishing themselves in the eyes of the others. At the same time there will be those who do not wish to compete, but who develop a critical attitude. This is their own defence, as well as a means of controlling excessive forcefulness on the part of the few. Thus it is that a somewhat tenuous "public opinion" begins to develop.

At this early stage the leader has the opportunity to establish the way of life which the party is to lead. At the same time he will be wise to demonstrate his own special abilities, while avoiding argument on controversial matters for which there is no solution, and which are not pertinent to expedition affairs. By refusing to be drawn into unnecessary arguments he will strengthen his hand, while in expedition matters a reasoned attention to the opinions of others is useful to him, as well as gratifying to the individuals who express them.

There will always be differences of opinion regarding the course to be taken. When the matter is important it is the leader who must make the decision, and he should be able to expect subsequent loyalty from the group. But if the matter is unimportant, it will be better to offer advice and then leave those concerned to decide their course. By these means he can inspire some confidence in his companions.

As the party settles down the leader will often find it better to use public opinion to control certain situations. For instance, there is often the man who is always urgently busy whenever an unpleasant task has to be done. He can be brought into line just as easily by his fellows as by a direct order, and this also makes it difficult for him to invoke sympathy when he is made to do what he does not like.

I have heard it said that if a body of men hate their leader they are less likely to have dissensions among themselves. Even if this is true (and I am not agreeing with it), it can scarcely be recommended as an ideal to be aimed at, for it can hardly be expected to produce

efficiency in situations where individuals must use their own intelligence and drive. They are as likely to sit back and wait for the leader to be shown as inefficient because he did not anticipate the situation.

A far more satisfactory way for members of a party to free their inhibited feelings is to have a good natural "butt" for their wit. Often he will be the "funny man" of the party—or perhaps one who is a bit naïve. Provided that he is good-natured, and takes everything in good part, he will help the community and at the same time become very popular. On the other hand, should this cloak fall upon one who cannot cope with the situation, it is up to the leader to control the humour of the group and free him from his penance. If he fails to do this he will have an unhappy frustrated man on his hands, and this can be a great handicap.

The more isolated an expedition community, the more parochial it becomes. Small matters which in normal conditions would not receive a second thought, loom large and may become sufficiently important to threaten morale. Often this shows up in remarks such as "No one ever tells us anything" or, "I'm not a child". In fact, those who make such remarks are probably perfectly well aware of whatever is happening, but are resentful because they have not individually been sought out and told. In the second case it is quite possible that they *are* behaving like children!

Unfortunately it is useless to point out these self-evident truths, for those concerned are on the defensive and have a strong urge to self-justification. Unless these dissatisfactions—however imaginary—can be removed, morale will suffer by the development of small cliques, each harbouring imaginary injustices.

Frequently the solution is to hold round-table conferences to discuss various activities and future plans. If each man is invited to comment on controversial matters, he brings his opinion into the open and is satisfied that he has been seen and heard to speak his mind. If he does not speak up it is clear to his companions that he has no justification for further complaints, for presumably he has not the courage of his convictions.

No man likes to feel that he is a member of a group where morale is low, and indeed such a situation is a reflection on every individual. But high morale is not a natural condition. Like love, it must be cultivated. This is achieved by unselfishness, self-discipline, loyalty, and the ability to think—and these must all be active, not passive, qualities. As morale is the reflection of group emotion the swing from one extreme to the other can be slow and insidious, or extremely rapid—as the result of some particular event. Although it is the leader's responsibility to be constantly aware of the situation, it is also incumbent on every man to play his part in maintaining a happy community. While everyone is aware of the need for high morale, it should also be remembered that when a party is operating in difficult or dangerous conditions, and things are going well, there is also a need for the group to temper enthusiasm and elation with caution—as I have suggested earlier when discussing the individual.

From all this you will realize that the leader has particular responsibilities to the community—over and above the necessity to make decisions on such things as the route to be followed, or what particular work has to be done. His strength and ability to cope with these matters depends on a number of things, some of which are beyond his control. For instance, his age in relation to his companions can be an advantage or a disadvantage. If he is the oldest member by a number of years he will be relieved of some of the problems which face a younger man. Apart from a degree of confidence which is usually inspired by such an age gap, the younger members are less likely to feel a "loss of face" in following the instructions of someone ten years older. Again, those ten years will certainly have provided experience which cannot be matched by the younger men. I do not suggest that the older man will always be right—indeed he will do well to pay careful attention to the younger men's suggestions, for they are unlikely to attempt to force their opinions on him unless they have good reason.

On the other hand, the leader who is of the same age group as his companions is faced with having to establish himself on grounds of his patent competence from the very beginning. If he cannot, he is likely to find himself with a "soviet" which will endeavour to decide everything for him while having dissension within its own ranks.

When necessary, it is much easier for an older man to remain slightly withdrawn from community wrangling without being criticized for being stand-offish, and it is undoubtedly that much harder for a young man to be a successful leader. This is more particularly so where

men are appointed to command parties which they have not chosen for themselves. In contrast, if the organizer of an expedition is also the leader, whatever his age he starts with the advantage of having chosen his men, and they know who will control them before they commit themselves. This gives a strength to his position which is lacking in such cases as a long-term expedition where the leader is appointed to succeed the out-going man.

Another matter we should consider is discipline. The members of an expedition cannot be subject to discipline in the same terms as apply to members of the Services. There are no punishments, apart from the sanctions imposed by the expedition community itself. This means that the leader must rely upon his own strength of character, tempered with tact. The situation is therefore one in which there is great reliance placed on the self-discipline of the individual member. Curiously this implies a paradox where a group of individualists (for this is what most expedition people are) submit themselves to their own discipline, and in so doing accept the authority of their leader.

It follows that men who pride themselves on their individualism to the extent of doing only what they want when they want, are useless in small isolated communities. In fact, of course, they are egotists—not individualists. On expeditions these people can only be misfits who punish themselves as much as they aggravate their companions. Today the cult of the individual produces too many artificial people who have not truly the substance to stand out among their fellows, but endeavour to do so because they are brought up to think it is the proper thing to do. When they realize their failure to impress, they turn more and more to extreme behaviour, but unfortunately their ambition soon outstrips their mental capacity and anti-social behaviour is often the result.

In populated parts of the world the community can hope to absorb these elements or cope with their problems, but in a small group there is no escape and no ready means of controlling them. Fortunately natural forces are apt to curb excessive egotistical exuberance, but it is not a happy experience for a man to be debunked by Nature.

The earlier in life we learn to make use of our inherent capabilities, the more we can make of them. To control temperament, to be willing to learn, to recognize one's limitations without dismay, and to use determination to persist, will surely bring a greater degree of accomplishment than to leave all to be governed by uncontrolled emotion swayed by the pressures of environment.

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