References and Notes

- 1. Abbreviations used: DNA, deoxyribonucleic acid; T4 DNA, deoxyribonucleic acid from bacteriophage T4; MAK, methylated albumin bacteriophage 14; MAK, methylated albumin kieselguhr; tRNA, transfer ribonucleic acid; T4 tRNA, tRNA isolated from *Escherichia coli* cells infected with bacteriophage T4; 4S RNA, low molecular weight RNA having 45 KNA, low molecular weight KNA having an average sedimentation coefficient of 45; mRNA, messenger RNA; UUMP, pseudouridy-lic acid; SSC, standard saline citrate, 0.15*M* NaCl and 0.015*M* sodium citrate; A adenylic acid; C, cytidylic acid; G, guanylic acid; U, uridylic acid; CTP and ATP, cytidine and adenosine trinbonates.
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Student Unrest: Sources and Consequences

Changes in adolescence, universities, and society have altered radically the experience of being young.

Leon Eisenberg

.. They will rediscover rules of behavior which their predecessors have let fall into disuse, including matters supposed to be of little importance: how the young should be silent in the presence of their elders, give up their seats to them, and take dutiful care of their parents; not to mention details of personal appearance, such as the way their hair is cut and the clothes and shoes they wear. It would be silly, I think, to make laws on these matters; such habits cannot be established or kept up by written legislation. It is probable, at any rate, that the bent given by education will determine the quality of later life, by that sort of attraction which like things always have for one another, till they finally mount up to one imposing result, whether for good or ill. For that reason I should not myself be inclined to push legislation to that length.—SOCRATES, as quoted in Plato's "Republic"

Does psychiatry have anything useful to say about student unrest? I am uncertain. My reluctance to give a positive answer stems from the role ascribed to the psychiatrist. When he speaks, he is heard as though his comments are based solely on his knowledge of the mentally ill; his remarks on this topic will be taken to imply that student unrest is a manifestation of illness-and that, as I shall try to point out, is just what I do not think it is. I do not deny that some students, indeed some student leaders, are ill; any social movement that involves large numbers of people must, on the basis of statistical probability, include some who are ill. But that fact is tangential to any attempt to understand the fundamental sources of contemporary student behavior. If psychiatrists have anything useful to add, it will be from our knowledge of the interrelation between social forces and

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psychological development—that is, of normal adolescent and young adult psychology as these arise from, and in turn affect, the social and cultural history of this epoch (1).

Student unrest in countries on every continent stirs passions and polarizes opinions. Urgent decisions are forced upon administrators by the vehemence of student activists. Traditional academic reliance on committees of investigation and prolonged faculty debates is precisely what students will not tolerate; they insist that delay sanctions immorality. Their tactic of confrontation is designed to provoke a response; clearly, it succeeds in doing so. Without the grace of leisurely contemplation, official reaction rapidly becomes reflex, as unreasoned and as impulsive as that of which we accuse the students. The rapidity of events puts a premium on hastily contrived and simpleminded "explanations" of extraordinarily complex phenomena.

That there is little time does not relieve us of the need to take time to try to understand lest we destroy the virtues of the University in the name of "defending" it. The greatness of the academic tradition lies precisely in its responsiveness to human needs. Needs change, styles change, societies change; many of our students perceive the very university life which we found so meaningful for our own development as irrelevant to theirs; they regard it as counterproductive in solving the major social problems of this era. It is often the brightest, the most committed, the most creative, who so regard it (2). It falls upon us to try to understand what it is about them, and what it is about the world they and we live in, that can account for this turning away from the Academy. Without such understanding, this nation may set forth upon a course of action that will destroy the University and its students-and us as well.

Academic Turbulence Not New

First, a historical note.

The American student revolution that began in the 1960's is regarded by the general public as unprecedented; this is partly because of the unhealthy quietude that prevailed in the previous decade of witch-hunting congressional committees. In fact, Harvard, recently the scene of a building take-over and a police bust after years of relative tranquility, was wracked by student revolutions in the

18th and 19th centuries. These revolts were not over high moral issues but over the more mundane matter of the quality of the food served in the commons. From this each took its name: the Bread and Butter Rebellion of 1805; the Cabbage Rebellion of 1807. The new commons built in 1814, called University Hall (the name of the building seized in 1969), was the scene of general turmoil which led to the dismissal of the entire sophomore class, one of whose members (John Washington Adams) was the son of the then President of the United States, John Quincy Adams.

Indeed, the European universities, on which the American were modeled, had been marked by serious and bloody fights between the academics and townspeople in France and in England (3). Cambridge University itself was founded by migrating scholars from Oxford after that university was closed. Perhaps half the universities in Europe owe their origin to such migrations—and the constitutions of others were formalized only after riots had forced change.

If I mention the past, it is to remind us that the phenomena that beset us have not appeared de novo, but not to suggest that the causes are identical or to imply that we can simply await the passing of the tide. The university occupies a far more central position in contemporary society; students form so much larger a proportion of the young population as to have altered the social role and significance of student life qualitatively; although food or dormitory life can be a trigger for unrest, the public slogans behind which the students rally demand changes in society, not the privilege of the monastic pursuit of isolated scholarship.

My remarks are confined to the North American scene. The phenomenon itself, as each day's newspapers reveal, is worldwide. Some of the motivating factors are similar here and abroad (and thus this article may have at least limited relevance elsewhere). Others are ecologically specific; the antiquated and authoritarian structure of Italian and French universities, the role of military oligarchies in Latin America; the lack of professional opportunities in undercapitalized countries; the suppression of cultural freedom in eastern Europe-each shapes student response. But it is my contention that the United States, by virtue of its enormous productive capacity, its technological finesse, and its relative, but uneven, affluence, offers in its present a view of a future inevitable for the youth of other nations—unless they (and we) recognize the sociological revolution in the status of young people that is part of the "post-industrial" state.

Prolongation of Adolescence

Let me now sketch in broadly some of the identifiable forces which shape the characteristics of contemporary youth. Of these, the most often mentioned, but by no means the most important, is biological.

There has been a marked secular trend toward a lowering of the mean age at which puberty occurs. Tanner (4) has estimated that "the age at menarche has been getting earlier by some four months per decade in Western Europe over the period of 1830-1960." By this projection, *biological* adolescence begins 4 years earlier than it did a century and a half ago, presumably because of improvements in nutrition and health. Obviously, this is not an infinite regression. There is a biological lower bound; nations, and classes within nations, undergoing the most rapid economic gains experience the most marked changes. The relevance to our topic is simply this: the attainment of the biological capacity for assuming adult roles now antecedes by a significantly longer period than in the past the time at which the young person is admitted to adult status, and would do so even if the age of adulthood had remained constant.

More significant, however, is a second set of factors. With the increasing technological development of modern society, the age at which the necessary training for adult roles can be mastered extends the interval between childhood and acknowledged adulthood still further, thus prolonging adolescence socially, just as it has been prolonged biologically. I need not spell out the psychological significance of possessing physical, intellectual, and social capacities the responsible exercise of which is denied by the rules and conventions of societies which have not accommodated to change.

Yet, on the other hand, by virtue of this very prolongation of the time available, not to a small elite, but to an ever larger number of our youth, it is also true that adolescent and youngadult psychological development is permitted a time for flowering unknown to earlier generations.

Childhood, Adolescence, and Youth

as Concepts

Philip Aries (5) has provided evidence that the *idea* of childhood is a relatively recent cultural invention. In the Middle Ages, only infancy was recognized as a separate stage. It lasted until the age of 7, when the child was assimilated into the adult world by apprenticeship, with little or no formal education for the vast majority of children. The concept of childhood as a separate stage of human development was first advanced in the educational writings of the French philosophers of the Enlightenment.

As infant mortality began to decrease, and as the amount of leisure time began to increase, the experience of childhood began to change. With the growth of industrialization and the need for a better-trained working class, education of the child and his segregation from adult society in the special institutions appropriate to the new concept of childhood began to be the norm for an ever larger percentage of the world's children.

Kenneth Keniston (6) has carried this argument one step further: he suggests that the *concept* of adolescence is a 20th-century idea, resulting from the further evolution of society. Freud, writing at the turn of the century, spoke of puberty as a biological event and had relatively little to say about it in contrast to the profusion of publications on adolescence that appeared in the post-World War II period. In this country, mandatory schooling up to the age of 18 has become the rule; the period of being sheltered from work roles and of being assigned formal educational tasks has been extended to an increasingly large percentage of the 12- to 18year-old population, for whom the job market has in any event no openings.

With some 7 million young Americans in colleges and universities, Keniston argues that the ground has been set for a new stage of psychological development: the postadolescent stage of youth.

These are young people who have completed the psychological tasks of adolescence in Erikson's terms emancipation from the family of origin, comfort with sexuality, attainment of a sense of identity and a capacity for intimacy (7). But, in their extended role as students, given a moratorium from the need to assume adult responsibilities, they continue to experiment with adult roles and to reassess their relation to society. Unlike so many of us a generation ago, they are not willing simply to be enrolled in the society made for them by their elders but, instead, question the very foundations of that society. They fluctuate between moods of euphoria, convinced that they can make real a world of beauty and idealism, and moods of alienation, wanting nothing to do with an ugly reality they despair of changing. It is true that they have not learned the necessity of translating idealistic ambition into effective tactics for progress. But have we?

I do not wish to be misunderstood. There have been children, adolescents, and youth in all recorded history. But the self-conscious awareness of these epochs as stages of development and the creation of social institutions to provide the time and the means for their flowering are new phenomena, new at least in the sense that more than a handful of young people participate in this further personal development.

The very newness of the concept of adolescence and the explosive growth in the numbers of those sharing in it contribute to a social hiatus: the absence of traditional mores for behavior appropriate to this prolonged and massed stage of youth. Ruth Benedict, 30 years ago (8), pointed out that primitive societies provide rites of passage in puberty-feats of strength and courage and tribal ceremonies that formally acknowledge the beginning of manhood. Contemporary society has blurred as well as prolonged this transition. For many-the poor, the black, the Mexican, the Puerto Rican, the Indian-there is no assurance of an adult role with meaning and dignity. I have argued elsewhere (9) that the striking absence of adolescent unrest in Israeli collective farms is in part explicable in terms of the need for the labor of the young, upon whom the collective depends for its existence (9). Perhaps I exaggerate the absence of norms for youth. In our time, riots and rowdyism were hardly uncommon; they occurred after football games and in panty raids. But these were the prerogatives of the collegebound elite; their elders smiled indulgently at these momentary excesses of young gentlemen en route to executive roles. Can it be that our ire is aroused by a difference in causes, by the seriousness of the challenge, by the social character of the crowd, no longer a privileged elite but an unwashed generation?

Social Characteristics

of Student Life

Let me shift now from the psychology of individual development to follow Coleman's sociological analysis (10). To repeat, we confront a large segment of the population who experience an enforced delay of the time at which they enter socially productive work. Moreover, their families are becoming far less important units of social cohesion, as more and more of the roles once borne by the family are taken on by other institutions in society. Third, these young people are segregated into mass educational institutions, which have a special value system: the student is given the task of improving himself on an individualistic basis-indeed, a competitive one-in which the success of one student is at the expense of another; grading is likely to be on a distribution curve. The funnel narrows as the student moves from one level to the next.

Moreover, the university itself has grown larger and consequently more bureaucratic and impersonal. Small group and tutorial sessions, once the hallmark of higher education, have been replaced by computer assignments, large lecture halls, and televised instruction. Funding mechanisms, which make each scientist an entrepreneur in securing money to support his own research establishment, have weakened faculty loyalties to the university and to its students. Faculty advancement has been based on numbers of papers published and grants obtained, rather than on capacity to inspire the young. Regimented in large cohorts, pressed toward egoistic goals, isolated from the governance of the campus, the students' experience is one of disconnectedness from society. Moreover, the growing legions of college students (estimated at 10 million by 1975!) include many who are "social draftees" rather than "volunteers." Most immediately, this results from the search for an alternative to military conscription. But even were the Vietnam war to end, social pressures from parents and peers, together with occupational demands for credentials in the form of diplomas certifying, not competence, but completion, conspire to assign the university the role of producer of a managerial class rather than that of a haven for personal development.

Contrast this with the traditional social function of the young worker

who must collaborate with others in producing for society. Though each worker may be motivated by his paycheck, he can earn it only in a common effort by virtue of the very nature of mass production; he can increase it only by joining with others in a trade union. If even the adults in contemporary society feel atomized and alienated, how much more must this be true of the student who has no immediate usefulness to society and who has had little to say in controlling the destiny of the society of which he is, willy-nilly, a member? It may be this very characteristic that makes joining in common causes so exhilarating an experience for students. As one reads the accounts of those who have participated in the seizure of buildings, one is struck by the repetitive assertion of the sense of euphoria and communal love that characterizes the immediate experience, whatever depression and dismay may follow its failure, and however ineffective the tactic may have been in attaining its professed aims. Some of these revolutionaries of ours are existential revolutionaries; for many it is the experience that matters rather than the accomplishments. In this emphasis on *feeling* lies the threat to the political mechanisms that must be preserved if social change is to be attained.

Just as these young people differ from the youth of an earlier day by virtue of these psychological and social characteristics, the world in which they live differs from the world of our adolescence in equally important ways. Industrialization has been succeeded by automation. To the machines that permitted man to augment his muscles have been added machines that permit him to augment his brain. This awesome power has resulted in a society that changes at an exponential pace. In a sense, the machines do outthink us, for they promise immediate gains so glittering in their appeal that we introduce them before we have been able to calculate their consequences. We are only just becoming aware of the pollution of our environment by the very technology that brings us creature comforts but whose price is the corruption of the quality of life. Some economists predict a future in which there will be work for no more than a fraction of the population. If this comes to pass, the religious ethic of work, common to the Judeo-Christian tradition, may be as out of date as the horse and the gas light. If the young re-

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gard the traditions we wish to pass on to them as irrelevant, they may not be wrong. Those traditions, even those only a generation old, may no longer be functional in a world that is radically different from the one in which they may have made sense. The hippie movement is dying, but its insistence on a degree of hedonism that infuriates those conditioned to a lifetime of hard work may in fact be a harbinger of future trends.

Revolution as Theater of the Absurd

Of the technical innovations that have special impact upon the young, none is more insistent and relentless than television. Television serves not only to transmit selectively, and by selection to determine, what is "news" but often to affect the course of the news by virtue of the presence of cameras on the scene. Its ubiquity and intrusiveness lend every contemporary happening the quality of living theater. Events are made "events" by the camera, whose presence inspires dramatic performances by providing an audience. Styles of behavior, once slowly spread by personal travel, now command instant imitation-and produce instant boredom, thus forcing a search for ever greater flamboyance if an audience is to be captured. The pace is accelerated, and overstatement is demanded, for the watcher has quickly had enough and turns the knob in search of new and more prurient excitement. It has become standard operating procedure to alert the mobile television truck as to the time and place of the next demonstration; without coverage, its value as witness is diminished. I do not suggest that the similarity of student tactics the world over is solely determined by the visual transmission of style-social urgencies the world over have their own resemblances-but each new stratagem becomes at once available to the rebel discouraged by the bankruptcy of his former repertoire. In La Dolce Vita, Fellini employed hordes of news photographers to symbolize the avidity with which the public devours scandal and destroys privacy. How pale the photograph in contrast to the moving image which converts political assassination into a commodity for home viewing!

Pervasive social problems press upon the young from every side. They inhabit a world that hangs upon the edge of

instant nuclear destruction. The ideology of some is bitterly evident in the current one-line joke, "When you sail on the S.S. Titanic, why not go first class!" American students face enforced service in a savage and unpopular war in Vietnam or the equally unpalatable alternatives of jail or emigration. Their brief flurry into conventional political activity in support of Eugene McCarthy ended in the debacle at Chicago. In their view, the universities they attend have become corrupted in the process of serving the needs of the military-industrial complex, against which President Eisenhower had warned the nation. The major iniquities of society-poverty and racism-continue unchecked in the midst of affluence and plenty.

Unlike the last generation, this one rejects ideologies, capitalist and communist alike. The young insist on unconditional morality, a goal no society has yet attained, and they demand it now. Their insistence on immediate change together with their disdain for tactics and practicality, their emphasis on resurrection through personal witness, and their substitution of rhetoric for the hard work of politics, understandable though these manifestations may be, jeopardize the realization of the very social aims behind which they rally.

Irresponsible calls for social revolution when the social conditions for change do not yet exist can endanger the very possibility of change.

But perhaps we have been addressing ourselves to the wrong question all along. Perhaps we should be asking, not why there is student unrest, but why there is no *adult* unrest, except in response to students. Why are we content to tolerate an immoral and futile war? Why do we as physicians permit health services to be cut back while \$100 million each day is committed to the war in Vietnam? Is it perhaps because we have been complacent that the young are frantic?

If I have referred to students as "they" and have written as though so multifarious a group shared a single ideology—even that of "rejecting ideologies"—this has been no more than a device of rhetoric. To have qualified each statement with appropriate reservations would have made each sentence a labored paragraph and this brief article an unreadable monograph. One need only cite the bitter schisms that have ripped apart the once pluralistic and decentralized Students for a Democratic Society as testimony to the diversity and contradictions within the student movement. There simply are no reliable data for identifying that fraction of the student population that is "activist" in the broad sense of the term; sections of the country differ, and this month's answers almost certainly will not obtain next month. Indeed, there are students who accept traditional academic pathssome in pursuit of scholarship, others en route to professional roles, still others as a means of achieving occupational mobility-and some who maintain a precarious equilibrium by not raising questions.

Whatever the fraction of the disaffected who are explicitly committed to the goal of radical social change, what is striking is the large reservoir of support from their peers, who rally in substantial numbers when sanctions are brought to bear against the initially small bands. It is conventional wisdom to dismiss this secondary response as irrelevant to the initial issues and to attribute it to the cleverness of radical tacticians (and the ineptness of university authorities) in "politicizing" the student body. This is no more than another expression of disbelief in the salience of the issues that arouse students. The post-bust slogans may broaden to include demands for amnesty, but the initial banners are still very much in evidence. They continue to provide, because they are viewed as legitimate, the moral justification in the minds of the many for the defense of the beleaguered few. This remains true whatever may have been the intent of self-proclaimed revolutionaries.

One further distinction must, however, be emphasized. The concerns, the tactics, and the special circumstances of black students, while having attributes in common with those of white students, require a special analysis that is beyond the scope of this article. White student radicals are still in search of a constituency beyond the bounds of the campus; as of this writing, at least, they have had no evident success in their call for an alliance with labor. Black students command greater, if still limited, sympathy in their own off-campus communities and have begun to voice demands more immediately relevant to the needs of those communities; witness the current emphasis on jobs for construction workers rather than on purely academic reforms. The experience of growing up black in white America so burns itself into the consciousness of black adoles-

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cents and youths as to become the central issue in their development (11).

The attitudes manifested by the student vanguard, white and black, are more significant than can be ascertained merely through counting numbers. For they bring to awareness, by sharpening to the point of caricature, the very issues, so easily blinked at by those of us who have it made, that threaten the fabric of society. To the extent that they reflect views shared in some part by a substantial percentage of their fellow students, they speak for some millions of young people. And that is a sociological phenomenon without parallel in our-or any nation's-history.

Who Shall Guard the Guardians?

To diagnose student unrest as though it were symptomatic of individual psychopathology is to fall into the error of confusing history with biography. The label of sickness provides a rationalization for avoiding an examination of the criticism the "patient" makes of his "family" and "doctor." To label unrest as "sick" is no more than a sophisticated version of the rage of adults at the effrontery of the child who pointed out that the Emperor had no clothes on. In part, adult fury stems from the very accuracy of the charge the young lodge against us. This is not to say that the correctness of the accusation warrants abject surrender by our generation; the young have no greater wisdom than we possess, and a good deal less practicality. But it is to say that resort to harsh punishment will perpetuate angry rebellion and block meaningful change.

The danger is dramatically clear. The anarchy of the young; the recklessness of some in threatening the university, the last remaining platform for rational dissent; their isolation from the mainstream of the community-all combine to offer the right wing a prime and longsought opportunity to smash the university in the name of protecting it. Our difficult task is to defend the legitimacy of student criticism at the same time that we find a way to make students aware that more is needed than sloganeering.

What must be combatted among students is the romantic movement to substitute feeling for knowing. If cold logic without ethics is what enables the engineer or the scientist to hire himself out to be a hangman and produce weapons of mass destruction, it is also true that the romantic revolutionary gets himself and his disciples slaughtered in the mountains by the guns of mercenaries.

Yet students have been perhaps the most potent single force in mobilizing public opinion against the war. Consider only the remarkable support for the Vietnam moratorium generated primarily by student groups. Indeed, 79 university presidents, notably silent until now, have petitioned the government for troop withdrawal. If it is argued that the university has been politicized, let it likewise be recognized that compliant silence is also a political act, particularly when it is accompanied by war-related research at the expense of comparable efforts to solve the staggering domestic problems that confront our nation. The irrational and often selfdestructive actions of the minority of self-proclaimed revolutionaries represent only a small part of the youth scene. Indeed, what must be combated is the stereotyping of all students in the image of the few whose unacceptable behavior provides a convenient excuse for ignoring the real issues at the core of present-day unrest.

The energy, idealism, and intelligence of youth are the prime resources of each nation; if those resources are to be wisely spent, our youth must be involved in the mainstream of national life. Youth is impatient—as it should be-with excuses for perpetuating evil. In the excess of its zeal, it sometimes abandons reason. But he who does not lose his mind over certain things has no mind to lose.

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