

# The Tech

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FRIDAY, MARCH 24, 1972

MIT, CAMBRIDGE, MASSACHUSETTS

FIVE CENTS



The MIT Lecture Series Committee (LSC) once had a bulletin board in the main hall of the Institute. Last weekend, members of the organization, eager to post the publicity for the new movie coming in, were unpleasantly surprised. Their bulletin board had disappeared: in its place was the ransom note reproduced above. When asked to comment, an LSC spokesman said, in a

plea to the kidnapers, "You missed *Love Story*, we miss our bulletin board." Suggestions by *The Tech* reporters that the ransom might be paid were met with cries of "Please Cease!" LSC officially noted that they would not change their movie schedule for this term, now that the revised schedule has been issued (copies available at the LSC office).

## Rosenblith bans use of facilities by SDS

By Joe Kashi

Provost Walter Rosenblith has denied SDS the use of any MIT facilities for the group's March 30-April 2 national convention, citing SDS's attempts to "thwart the free exchange of ideas."

SDS has countercharged in leaflets that Rosenblith "exploded," threw a notebook at Aaron Tovish, and chased them from his office when they attempted to discuss his decision.

In a letter to Student Center Dean Jon Hartshorne, Rosenblith argued that SDS should not be granted room use, as a matter of principle, since they have repeatedly attempted to disrupt speakers with whom they disagree. He said: "We have concluded that the conduct of this group has not earned them the privilege of the use of MIT facilities for a national convention. We further regard such actions and tactics as destructive to the foundation and role of the university."

The SDS request was turned down despite a favorable recommendation by the Student Center Committee. Steve Wallman, scheduling officer for the Committee said that the Committee approved SDS's request for Kresge and several Student Center rooms "because we considered their request along the same guidelines as that of any other student activity. After all, MIT-SDS is a

recognized student group. At the same time, we thought that some of the anti-SDS rationales were a little repressive."

SDS had requested MIT facilities for March 30 and 31, since Harvard University, the main convention site, granted permission to use classrooms on April 1 and 2 only. Harvard classes do not recess until March 31.

SDS then approached MIT for facilities through MIT-SDS, a recognized student activity. Outside activities requesting meeting space through MIT groups are routinely granted permission to meet by the Facilities Use Committee of the Provost's office. The matter was referred to Rosenblith, said Chairman Dr. Louis Menand, because of its "controversial nature" and because his group could not reach a consensus.

The Committee and the Student Center Committee met with Rosenblith last week to pass along their views and decide what action to take. On Friday, March 17, Rosenblith decided to prohibit parts of the SDS national convention from meeting at MIT. An appointment was made with Gene Kroch '72 to explain why their application was turned down.

Kroch met with Rosenblith (Please turn to page 2)

## ASA elects officers, Kibel defends universities revamps constitution

By Bert Halstead

Universities should continue to be dispensers of "esoteric knowledge" in the humanities as well as the sciences, argued Professor of Literature Alvin Kibel at last Tuesday's Technology and Culture Seminar.

The original title of the talk was "Objectivity in the Sciences and Humanities," but Kibel announced that he had decided to call it "Without Benefit of Clergy" instead - it seems that the church and the university are the only two medieval institutions that still survive today. The function of both of these institutions, according to Kibel, is to transmit so-called "esoteric knowledge."

First, Kibel launched into a brief history of the philosophy of rationalism. The basic premise of this philosophy, which came of age in the Enlightenment of the Eighteenth Century, is that reason is immutable, and that the truth is the same for everybody. According to Kibel this is the idea the "I am a man, nothing human can be alien to me," or "I am a citizen of the world... Truth is my queen." This faith in reason makes it the final, independent court of appeal in all cases. One must never alter reason to conform to rules, but alter the rules so as to be rationally consistent - thus reason is superior to any particular institutional form. Today, Kibel commented, this "rationalist faith" pervades the philosophical atmosphere to the extent that people are no longer fully aware of its existence.

Kibel then undertook to challenge this rather formidable

monster, asking if the rationalists were wrong and truth was "esoteric" and dependent on some particular institutional form. The term "esoteric" here refers to knowledge that does not seem to come naturally to people. For example, to learn to play chess, one has to temporarily subjugate his intellect to restrictions which seem arbitrary at the time, while someone who knows explains the basics of the game. Having acquired a basic competence and understanding, one can then go on to develop a proficiency by oneself. In this case the period during which one blindly submits to the authority of the chess teacher is short, and almost immediately one can see why it was necessary. This is not true, Kibel continued, in a discipline such as physics, where the period of submission may last months or years before sufficient understanding of the con-

cepts and their relationships is reached. Only then can the student see the full significance of the tests he was given; and only then will a physicist certify him as having acquired competence in physics. The function of the universities, therefore, is to serve as a haven for the study of "esoteric" disciplines like this. Indeed, without these institutions, such disciplines might disappear. This, according to Kibel, refutes the idea that "I am a man, nothing human can be alien to me," for unless one has acquired competence in physics, physics is an alien subject.

In the case of scientific research, Kibel pointed out, the public does not attempt to judge the validity of the ideas involved, leaving that to people of certified competence (scientists). He noted that what the public does judge is whether or not the

(Please turn to page 2)



Prof. Alvin Kibel

Photo by Sheldon Lowenthal

The election of Robert Dwyer '72 as President and adoption of a new constitution calling for restructuring of the Association of Student Activities marked Tuesday night's election meeting of the ASA.

In addition, the organization elected Robert Elkin '73 as Secretary, Robert Hunter '73 as Treasurer and Fred Duncanson '74 as member-at-large to Finboard.

The new constitution, adopted by a unanimous vote of those present, will reorganize existing recognized activities into two categories: Class A and Class B. Class A activities are defined as those activities which have permanent space in MIT facilities, other than honoraries or course organizations. Class B activities will be composed of the remainder who do not qualify as Class A activities, but Class B activities may be elevated to Class A status by a majority vote of the existing Class A activities. If more than one activity uses a given space, they will elect one representative between them.

Only Class A activities will have a vote at ASA meetings and elect ASA officers to the Executive Committee with the addition of the newly created position of member-at-large from Class B activities who will be elected by that group alone. A change in voting procedure will restrict proxies from ASA representatives (chairmen of the activities) to another officer of

the activity. This will eliminate the current ability a person has to collect votes and thereby control a meeting of the ASA.

The restructuring of the organization was prompted by a feeling that the larger activities who participate in and benefit most from the ASA should actually run the Organization. It was felt that the smaller activities tend not to be concerned with the furtherance of activities in general. None of the organizations which classified as Class B had representatives present at Tuesday night's meeting, though notice was mailed to all.

An important provision requires all activities to review their constitutions on file in the Activities Office, W20-401, and present a current list of officers with addresses and telephone numbers within four weeks following last Tuesday's passage of the new ASA constitution. In addition, each activity will also be required to review their constitution on file and update their list of officers by October 1 of each school year. Failure to do the above will result in loss of recognition, upon two weeks written notice to the activity by the Executive Committee. An activity must be recognized to receive funds from Finboard and hold office space. The purpose of this is to allow only active organizations to retain ASA membership.

Since, under the new (Please turn to page 3)

**NOTES**

\* "Deaf Education: Change and Challenge" Carol L. Proctor, Director, Oral Education Center of Southern California. ERC Colloquium, Friday, April 7, 12 noon, the Bush Room 10-105. Open to the public.

\* March 24, 1972 is the deadline for changes by seniors of the choice of subjects to be graded on a pass/fail basis.

\* Finboard budget hearings will be held during the first two weeks in April. Budget request forms are available in W20-401 and are due today.

\* Activities are requested to pickup their mail from the Activities Office, W20-401.

\* Nominations for the Goodwin Medalist are now being accepted. Please submit the names of any candidates to Dean Irwin W. Sizer Room 3-134, before Monday, April 3, 1972. Nominations may be made by any student or faculty member and submitted through the Head of the nominee's department, the Undergraduate Association or the Graduate Student Council. The Goodwin Medal is awarded in recognition of conspicuously effective teaching by a graduate student who is either a Teaching Assistant or an Instructor. Further information may be obtained by calling extension 4869.

\* The MIT Bridge Club is once again serving it up hot and heavy every Saturday at 1:30 in the Student Center. Do it weekly!

\* If you are thinking of visiting your high school during spring vacation, and would like to talk with someone in the Admissions Office about it, Cindy Bloomquist will be glad to see you. Just stop in at her office (3-121).

\* MIT HEBEL will be conducting Passover services on Tuesday, April 4, 8:00 pm; Wednesday, April 5, 9:30 am and 8:00 pm; and Thursday, April 6, 9:30 am (note time changes). The Yizkor (Memorial) service on Thursday, April 6, will begin at 11:30 am. All services will be held in the chapel.

\* The MIT Chinese Students Club is sponsoring China Week at MIT, April 4-8. Pastries and gifts will be sold in Bldg 10 during class hours. In addition, there will be a free film festival in Rm 407, Student Center, from 7:30-11 on April 4-6. The week will end with a China Nite Variety Show, featuring Peking Opera, Saturday evening, 8 pm at Kresge Auditorium. For information, call 354-2789.

\* MIT Ecology Action has restarted the newspaper recycling program. A large hamper is temporarily located in Kresge parking lot. For more information contact the MITEA/MITZPG office at X7922 or DL 9178, Fred Gross at DL 8358 or Avi Ornstein at 261-1759.

\* The Muddy Charles Pub in Walker 110 is having a party April 3 from 4 pm on. Beer, 15 cents a glass, free snacks, barmaids, music, etc. Open to the MIT community over 21.

\* The MIT Peace Coalition is compiling information on weapons research and military contracts at MIT. If you have any ideas or knowledge on the subject, or if you would like to join in the research, contact Prof. W. Watson, 14-324, Ext. 4146.

**UROP**

Challenging opportunity available for undergraduates at Project MAC. Should be interested in computers, time sharing, and systems programming. Should have experience in Assembly language and in systems programming. Desirable but not necessary to have experience on Digital Equipment Corporation computers (PDP10, etc.). For information, call or visit Alisa Brown, Room 212, 545 Tech Square, x1440. If no answer, leave message at x1458.

**MIT offers grants in urban affairs**

The Office of the Provost has announced a program for funding of community service projects in the Boston-Cambridge area throughout the summer for interested students.

Sponsored jointly by the President's Fund for Community Affairs, the MIT Community Service Fund, and the Undergraduate Research Opportunities Program, the competition for funding has been developed to encourage students to engage in pursuits in urban-related projects over the summer. The program will offer funds to cover stipends, materials, and other expenses for selected projects.

All interested groups will submit written proposals to a final

review committee, complete with attached budgets. Complete guidelines for the program are available at various locations throughout the Institute.

Preliminary criteria for all projects as specified by the review committee are as follows:

1. Each specific but brief written proposal must be submitted by April 18, 1972.
2. Each project must involve both on-campus and off-campus advice and sponsorship in planning, implementation, and evaluation.
3. Projects must involve full-time (i.e. 40 hours per week) commitments.

4. Content and objectives of projects must be defined and certified as desirable by all students, community groups and advisors involved.

5. All selected projects will be required to prepare a final report at the conclusion of the summer.

Staff coordination will be provided by Timothy Bird, and

planning of chosen projects for consideration will be done through his office with the cooperation of MIT Urban Action.

Final guidelines for proposals and additional information are available at MIT Urban Action, W20-437, the Information Office, 7-111, Bird's Office, 9-443, and the office of Dr. Louis Menand, 7-141.

**Kibel defends schools; teachers of expertise**

(Continued from page 1)

research is socially useful. If a space expert says so, we do not question whether it is possible to land on the moon; we simply ask if that is what we want to do right now. In the humanities, Kibel argued, everybody fancies himself a judge, not only of the results, but also of the methods, and here is where the role of the university as a dispenser of competence which cannot otherwise be acquired is coming under fire. In the view of Kibel, however, the layman is no more able to evaluate Shakespeare intelligently than he is to evaluate an atom-smashing experiment, though he

may think what he is saying is intelligent.

The respondents were Bruce Mazlish, Professor of History and Richard Cartwright, Head of the Department of Philosophy. They agreed with Kibel on many points, but attacked his notion of "esoteric knowledge" as rather vague. Mazlish also commented that the current attacks on universities are surprising because they come from the left not the right. He said that the attack on universities as "tools of the establishment" is one of the symptoms of a "cultural revolution" he feels is going on.

**Rosenblith bans use of facilities by SDS**

(Continued from page 1)

on March 20 at 3:15, for what was generally considered a polite session. Rosenblith told Kroch that he could not accept SDS's attack on Harvard Professor Richard Herrnstein as a "racist" in *New Left Notes*. After reading the SDS publication in question, Rosenblith said he felt that SDS's view of social problems and ways of ameliorating them was destructive of the foundations of academic freedom.

Kroch left. Several other members of MIT-SDS, including Aaron Tovish '73 and Tim O'Brien returned shortly. Menand, Hartshorne, and Wallman were present. The discussion quickly became heated.

Rosenblith told Tovish that SDS's attacks on Herrnstein and their conduct during Urie Bronfenbrenner's lecture at MIT two weeks ago precluded their use of MIT's facilities.

At that point, Steve Wallman later told *The Tech*, Tovish called Rosenblith a "hypocrite." Claiming that Rosenblith supported American bombing and war efforts in Indochina, and that MIT extended academic freedom to "war criminals," Tovish pushed a leaflet toward Rosenblith. Agitated, the Provost shoved it back, saying that he did not want to see it. This is apparently the incident in which SDS later claimed that Rosenblith threw a notebook at them and immediately chased them out in a rage. However, Wallman said that Rosenblith, Menand, and the two SDS members rose. Rosenblith, he said, told them that they had reached an impasse. As Tovish was leaving, he turned and again called Rosenblith a "hypocrite." At this point, Rosenblith ordered them in an angry but low voice to "Get out." Several secretaries in the Provost's office told *The Tech* that they heard

no shouts, despite being within earshot of the office.

The Cambridge School Committee has granted SDS permission to use the Rindge Tech auditorium for meetings on March 30 and 31.



Photo by Menand/Gelzman

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# ASA sorts activities into two classes

(Continued from page 1)

constitution, there were no Class B activities represented at the meeting, the election for member-at-large was postponed until after Spring vacation. Dwyer stated that, if necessary, the election will be conducted by mail ballot.

Dwyer noted that many activities are facing financial and

membership problems. He noted that most Class B activities have little communication with others. They don't pick up their mail and generally don't attend ASA meetings.

One of his goals is to rearrange room space on the fourth floor of the Student Center so that space allocation will be more representative of

the number of man hours used and activity requirements as opposed to its current state. He described the MIT Science Fiction Society as "bulging at the seams" while some activities use their facilities only a few days each month."

In addition, Dwyer would like to see any group of students who want to use MIT facilities

recognized as an activity. He notes that this has not always been the case in the past. He would also like to investigate ways for activities to generate sufficient funds to cover their requirements by themselves or, if necessary, through Finboard and the Activities Development Board.

It was announced at the meeting that the Finboard budget hearings will be held during the first two weeks in April. Budget request forms, mailed to all activities and also available in W20-401, are due today so that appointments can be scheduled. If an activity has not yet received a form or will be late in filing a request, they should contact Natalie Parks, Finboard Chariman, or the Finboard Office, W20-405, X3680.

Wallet and pocketbook thefts are on the increase throughout the Institute from offices, labs and library areas.

We solicit your cooperation in safeguarding your property.

Do not leave a pocketbook or wallet in plain view or in an unlocked desk drawer even for a few minutes. Placing pocketbooks under typewriter wells, under desks or in unlocked file cabinets does not constitute a safe practice. The experienced thief is aware of these locations. Do not leave a wallet in a suit coat or jacket hanging on a coat rack in an unattended office. Since it is often impractical to lock one's office or lab on every brief departure, develop the habit of keeping all valuables in a locked cabinet or drawer.

Report all thefts promptly to the Campus Patrol, Extension 2997 or 2998

# House passes drinking at 18

By Beth Karpf

The State House of Representatives passed a bill, Tuesday, to lower the legal drinking age to 18. The bill had passed the Senate the previous week.

In addition to being able to purchase and consume alcoholic beverages, 18-year-olds will be allowed to work in bars and other establishments which serve alcoholic beverages.

The bill, in its final form, had two amendments attached. The first called for a non-binding referendum on the issue in November. The second set the date that the law would take effect at March 1, 1973. This delay would make it possible for the legislature to repeal the law before it became effective if such action were indicated by the results of the referendum.

During Monday's session, two attempts to add other amendments failed. One would

have changed the age from 18 to 19 and the other would have allowed 18-year-olds to drink only with parental consent.

One of the major arguments presented for the bill was that if 18-year-olds had adult status in other areas (right to vote, eligibility for the draft and adult status in criminal cases) they should be given the right to drink. It was also stated that by the end of the year Massachusetts would be surrounded by states with lower drinking ages and that if we didn't lower ours, young persons would drive across the border to

drink and then get back on the highways.

Those against the bill said it would result in an increase in drunken driving accidents. (Those who favored the bill cited New York as evidence to the contrary.) There were also attempts made to link a lowering of the drinking age to an increase in pregnancy and V.D. and a general deterioration of morality in our society. One representative said, "Soon, instead of teaching the 3 R's in our public schools, we'll be teaching the 3 B's; Booze, Butts and Broads."

### Correction

The 160-170 figure for female admissions to the class of '76, as reported in Tuesday's *The Tech*, was incorrect. The actual number admitted was 186, down from last year's 190.

## classified advertising

20% - 50% OFF ON ALL STEREO EQUIPMENT. Stereo Components, Compacts, and TVs. All new, in factory sealed cartons, 100% Guaranteed. All major brands available. Call Mike anytime, 491-7793.

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Metalurgy jocks: Earn \$\$. Submit bids for 3 ft. left handed screw for Kaleidoscope big screw contest to John Krzywinski, x2696.

Wanted: People to help on compilation of information on weapons research and military contracts at MIT for the MIT Peace Coalition. If interested contact Prof. W. Watson, 14-324, x4146.

KOSMIC KARTOON FESTIVAL featuring BETTY BOOP. Friday, March 24, St. Paul School Hall, 29 Mt. Auburn St. near Harvard Square. 6, 9, and 12 pm. \$1.50.

Scientific project on adult sexual behavior seeks volunteer help. Privacy, confidence assured. For anon. questionnaire, write Center for Interpersonal Communication, Washington, NH 03280. Thank you.

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# The Tech

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Vol. XCII, No. 14 March 24, 1972

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# Wisconsin: the crucial primary

By Peter Peckarsky

Making the delegate selection process more responsive to the will of the people was one of the main ideas underlying the reform changes in Democratic Party rules adopted between the 1968 fiasco and this presidential year.

So the people spoke in Florida and what did they say? When the hue and cry had faded away and the candidates had retreated to the next primaries, in the lead for the Democratic Presidential nomination was Alabama Governor George Wallace. Tuesday, Illinoisans went to the polls and when the finished, the leading candidate was a politician by the name of "uncommitted." Actually, the person who controls those supposedly uncommitted delegates is the Chairman of the Cook County Democratic Party, Chicago Mayor Richard J. Daley. The reform rules were supposed to prevent a "brokered" convention where big bosses would enter the convention hall with large numbers of delegates under their control. True, the rules and a gentlemen's agreement among Daley, Maine Senator Edmund Muskie and South Dakota Senator George McGovern did reduce the number of delegates which Daley would ordinarily have expected to control from the entire delegation with 170 votes to the 87 he captured in last Tuesday's balloting.

After Daley, the other candidate and their current delegate totals are: Muskie (81.5), Wallace (75), McGovern (27.5), Minnesota Senator Hubert Humphrey (6), New York Representative Shirley Chisholm (5).

Wisconsin is still, as it was in January, (*The Tech*, 1/19/72) the crucial early primary due to its being a microcosm of the nation as a whole. It has none of the peculiarities of New Hampshire, Florida, or Illinois. The politics of Wisconsin are among the cleanest in the nation in contrast to those in Illinois where 13 election judges were arrested Tuesday in Cook County alone and a number of voting machines were discovered with marked ballots before the polls opened.

All of the major candidates are entered in the Wisconsin primary which will take place on April 4.

Currently, Humphrey appears to be winning with Muskie in second place and fading. McGovern is third, Washington Senator Henry Jackson fourth, and New

York Mayor John Lindsay and former Minnesota Senator Eugene McCarthy are far behind. Lindsay and McCarthy have not captured the imagination or support of the electorate and appear to be going nowhere fast. The big unknown factor is the vote Wallace will attract.

Busing is not an issue in Wisconsin. Students have been transported in school buses from the inner city to the suburbs in Madison, the state capital, for two years with no noticeable opposition or untoward incidents. The main issue in the campaign is the economy.

Wednesday, March 22nd, *The Milwaukee Journal* came out with a story which claimed that the unemployment rate in the Milwaukee area had topped 6%. The southeastern Wisconsin cities of Racine and Kenosha had been on the Labor Department's list of areas with more than 6% unemployment for some time. Last month, through the use of a subterfuge, the Bureau of Labor Statistics (BLS) was able to claim that unemployment had dropped to 5.7%. To lower the unemployment rate, the BLS simply stopped counting as unemployed all those who were looking for a job but had never been employed. The Wisconsin economy has been in a downturn for a long time and *The Journal's* article did little to instill faith in the burghers of the city.

Wallace will draw significant support in Racine and Kenosha and may also win support in the lower working class Polish neighborhoods on Milwaukee's South Side. In the 1964 Democratic primary running against an unpopular Governor John Reynolds, who was standing in for President Lyndon Johnson, Wallace polled 34% of the Democratic vote. Wallace's support has been slipping since the Florida primary. The reason may be that people who intended to vote for Wallace as a protest against current conditions may have been scared by the Florida results and come to realize that they do not actually want George Wallace in the White House. It is not generally recognized, but Wallace drew significant support in 1964 from the rich, conservative northern suburbs of Milwaukee in addition to winning votes on the South Side.

Governor Wallace is spending little money in Wisconsin, but he arrived in town on Wednesday and held a rally in

Milwaukee last night.

Muskie, who has stopped paying his staff until after the Wisconsin primary, has little money for the Wisconsin effort. The New Englander has numerous endorsements from party leaders in the state, but little or no money and no organization to speak of in the Badger State.

Both the McGovern and Jackson campaigns are well financed and intend to pour massive amounts of money into a media blitz in the last week to ten days of the campaign. McGovern has a solid organization state-wide but this does not seem to be translating into voter support.

The two strongest Democrats in the state, Governor Patrick Lucey and Senator William Proxmire, who won re-election in 1970 by better than 70% of the vote, are staying on the sidelines for this primary.

Concern over the economy is foremost in the minds of most voters. Busing is not an issue and the Vietnam War is not the issue it might have been with 35,000 students on the University of Wisconsin's Madison campus and another 15,000 students at the Milwaukee campus. Apparently, although the students have registered, they are not turning out to vote, and are not voting in a bloc (based on their performance in the elections held in March).

Hence, the following scene emerges ten days before the most crucial of the early primaries: Hubert Humphrey will probably win, although not by a smashing margin. Muskie and McGovern will fight it out for second while Jackson is generally conceded fourth place. Lindsay and McCarthy will be fighting to keep their campaigns alive in Wisconsin and gain the momentum which will carry them through to the convention.

The big imponderables are the Wallace vote and the effect Muskie's Illinois victory will have on the outcome in Wisconsin. If Muskie finishes a poor third in Wisconsin, the skids would be well greased for his exit from the race due to lack of money.

### Correction

Upon investigating our allegations regarding Diane Clemens, we consider that our sources were unreliable and provide false information.

MIT SDS

# Letters to The Tech

To the editor:

We, the undersigned members of the MIT faculty, demand that MIT provide the rooms that MITSOS has requested for Thursday and Friday of the SDS National Convention Against Racism, March 30-April 2. The Provost's refusal to grant rooms (like Epps' threat to deny rooms at Harvard to SDS because of its campaign against Herrstein) is an act of political repression against a legitimate campus organization which has been part of a nationwide campaign against racism.

Ned Block, XXIV

Warren Ambrose, XVIII

Richard Miller, XXIV

George Bookos, XXIV

Will Watson, XXI

Douglas A. Hibbs, XVII

Harold Freeman, XIV

J.Y. Lettvin, VII

Wayne O'Neil, XXI

Paul Kiparsky, XXIII

William Pinson, XII

Kenneth Hale, XXIII

G. Hubert Matthews, XXIII

S.D. Joshi, XXIII

Jerry A. Fodor, IX

David Levin, XXIV

Emilio Bizzi, IX

To the editor:

Last Friday, on hearing reports that the Administration intended to override the decision of the Student Center Committee to give space to MITSOS for the *National Convention* we went to discuss the matter by appointment with Provost Rosenblith. When we were admitted through the locked door by policemen, Provost Rosenblith made it clear that he opposed MITSOS's request for rooms, stating as his reason that MITSOS had tried to prevent people from speaking on campus. He was referring to the Bronfenbrenner lecture, at which SDS members, along with many other people, far from

preventing Bronfenbrenner from speaking, asked him pointed questions, causing him to attempt to defend his views that black people are inferior (*Journal of Child Development*, January 1967). When we pointed this out to Provost Rosenblith, and said that MIT SDS had never prevented anyone from speaking on campus, he replied that they would have done so if they could have. This too is a distortion of reality, because it was decided at an open meeting called by SDS to hear Bronfenbrenner's views and to insist by questioning that he attempt to defend them.

We pointed out that it is particularly deplorable that MIT would repress a conference on racism, in view of the racist theories and practices that are emanating from universities all across the country. Provost Rosenblith apparently will not admit the existence of such a movement of academic racism in America.

In the course of our conversation he insisted that there was no analogy apparent to him between the racist professorial theorists on German campuses in the 1920's and 1930's, who helped pave the way for Nazism, and the current set of academic racists cropping up on American university campuses. In our opinion there is an historical analogy. The victims of the Nazi academic theoreticians were the Jewish and Slavic peoples; the victims of the theoreticians of racial inferiority are American blacks.

It is clear to us that the decision to deny rooms to MITSOS is an act of political repression against a political adversary of MIT.

We protest the MIT Administration's joining up with other Boston area universities in trying to stop a conference on racism by an organization which has been fighting racist practices and racist ideology within these same universities.

We urge members of the MIT faculty and community at large to protest the Administration's decision and to work towards reversing it.

Paul Kiparsky

Associate Professor

Department of Linguistics

G. Hubert Matthews

Professor

Department of Linguistics

William H. Pinson

Associate Professor

Department of Earth

and Planetary Sciences

To the editor:

As professional historians, we note with dismay that our positions have been publicly misrepresented and that outside groups have attempted to use our names and our presumed differences for their own purposes. As colleagues in the historical profession and at MIT, we believe that our professional views, whether or not in agreement, should not and cannot be distorted to serve political aims which we do not endorse. We abhor any and all attempts to undermine the free exchange of ideas upon which the modern university is based.

Diane S. Clemens

Assistant Professor of History

Robert I. Rotberg

Associate Professor of Humanities and Political Science

To the editor:

We would like to take this opportunity to thank The Technology Community Association, the class of '72 and the Eta Kappa Nu Association on behalf of the Electrical Engineering Department for conducting a student evaluation on many of our subjects. Such an evaluation is certainly a step in the right direction for making our teaching program more effective. We urge you to continue with these evaluations in subsequent terms.

The very fact that the results of this

evaluation were published has had an effect on the instructors now teaching these subjects and on future students yet to be enrolled in these subjects. We, however, feel that the benefits ought not to end at this point. Rather, the departments should take an imaginative and constructive approach to these data. We, in the Electrical Engineering Department, have carried out a study of these evaluation results to provide us with data for long-range undergraduate educational policy decisions with regard to the structure and presentation of our core subjects. Discussions aimed at improving specific subjects are to be carried out between representatives of the Department and the staff of these subjects. We welcome constructive suggestions on other uses that can be made of these course evaluations.

L.D. Smullin

Head of Electrical Engineering

Department

R.M. Fano

Associate Head

M.S. Dresselhaus

Associate Head

To the editor:

It has been a pleasure to read your excellent reports on women's activities. It quite a contrast to the kind of reporting *The Tech* occasionally gave to women. For example, I suggest that your staff read the report on the Association of Women Students' National Conference on Women in Science and Engineering as published by *The Tech* in the fall of 1964. Not only was the coverage extremely distorted - it was also extremely limited. The Boston newspapers and TV stations gave the conference far more coverage than *The Tech*.

Your recent policy of giving equal coverage to women's events is greatly appreciated - please continue.

Christina Jansen

# MIT's Affirmative Inaction

By Bruce Schwartz  
and Sandy Yulke

"The Massachusetts Institute of Technology has been operating under an affirmative action program since October, 1969. The program has only produced modest changes in minority unemployment. We have concluded from our follow-up review conducted from April through September 1971 that the Institute's original program is not workable for the reasons aforementioned in this document."

—John G. Bynoe,

Regional Civil Rights Director  
HEW, in his letter  
to Jerome Wiesner  
March 17, 1972

In September 1969, which some people may remember as being one month before the first Moratorium and two months before the November Actions, the Faculty Council of the Institute (which few people remember) endorsed the goal of appointing thirty new black faculty members over the following five years. They further urged that each academic department make maximum efforts to appoint at least one black to its ranks.

At that time, MIT had a total of three black professors. Today, halfway through that five-year period, it has five — not counting visiting faculty, who swell the numbers to eight.

In 1969, about 3.6% of the Institute's non-academic personnel were black. Today, that figure is over 5% — but black workers are still overrepresented in unskilled job classifications, and underrepresented in technical and administrative jobs.

Such figures tell only part of the story of why HEW found the Institute's Affirmative Action Plan of 1969, developed to meet the requirements of Title VI of the Civil Rights Act of 1965, to be inadequate, and why it deemed the progress MIT had been making toward the goal of equal employment opportunity unsatisfactory. Institute officials, despite a few qualifying remarks about the obsolescence of HEW's November 1970 data, had to agree: "The basic problem still exists and we are working hard to correct the situation," said Benson Snyder, Dean for Institute Relations and Chairman of the Equal Opportunity Committee.

For in fact the Institute has, in most areas, been dragging its feet toward compliance with the spirit, if not the letter, of the Civil Rights Act. The sole bright exception has been the success of the black student recruiting effort that came out of the Task Force on Educational Opportunity formed under Paul Gray in October 1968. In three years black admissions have gone from virtually nil to over 6% of each freshman class. In other areas, the record is poor. And if the record with respect to blacks is poor, the record with respect to women is abysmal. Women, who make up 51% of the national population, make up about 9% of the MIT student body, and less than 3% of the faculty. There are, of course, historical reasons for this, stemming from the long-standing prejudices that kept women out of science and engineering. One cannot create women PhD's overnight, however much one might want to. But no such argument can be applied to non-academic staff positions, where we find an administrative staff that is over 85% male (and white at that) directing the efforts of clerical workers who are overwhelmingly female.

HEW's point was not, of course, that these inequities exist. Everyone did, and does, know it. The point was that MIT has not been making very rapid progress in correcting them. Some of the reasons were pointed out by HEW in the part of its report — the summary and recommendations — that MIT chose to make public. The October, 1969, plan included no provisions about women, and though this was changed to include them in May 1971, HEW felt that at no level had the Institute been sufficiently rigorous in its analysis of its problems with hiring qualified blacks and women, nor had it set up adequate mechanisms to deal with them. Recruiting of blacks and women to faculty positions has been sloppy or nonexistent in most cases, and its pace has been retarded by faculty

prejudice and conservatism. The development of guidelines and enforcement apparatus for the Affirmative Action Plan has been extremely haphazard; in fact, the Institute seemed up until last week to have attached low priority to Opportunity Development. (In a recession economy with cutbacks going on, who wants to concentrate on new hiring?) Instead of a central enforcement apparatus, Affirmative Action until a few weeks ago was managed by a patch quilt of committees.

MIT's Affirmative Action Program to date, then, has not been functioning adequately. To understand why, and to understand what changes are now being made to improve the situation, it is necessary to examine the history of the Plan.

Lyndon Johnson's Executive Order 11246, under authority of the Civil Rights Act of 1965, forbade discrimination [by federal contractors] because of race, creed or national origin. HEW was directed to monitor compliance and ordered firms to develop Affirmative Action Plans to counteract the effects of earlier discrimination.

At MIT, compliance measures included the establishment of the Opportunity Development Office within Vice-president John Wynne's office, and black student recruiting. A Task Force on Equal Opportunity under Jack Ruina began meeting in July 1969 and drafted the first Affirmative Action Plan of October 1969. Despite the promulgation in October 1968 of Executive Order 11375, which extended Title VI provisions to include women, MIT's original AA Plan made no mention of women. The 12-member Equal Opportunity Committee was formed in Spring 1970 to oversee the plan. Chaired by Dr. Benson Snyder, its membership included two faculty and two students. All departments were directed to develop AA plans of their own, and to submit them to the EOC.

In May 1971, at the direction of Howard Johnson, every department was directed to draft a new plan which would include women. These were to be submitted to EOC by July 1. The EOC then began to review them.

That review is still not complete, which gives an indication of the inefficient, bureaucratic approach MIT has tried to apply to Affirmative Action. EOC met once a week. Four "sub" committees functioned under it: Educational Opportunity, headed by Paul Gray; Faculty/Staff, under Vice-president for Research Albert Hill; non-academic Employment (John Wynne); and Community Programs (e.g. Urban Action) under Opportunity Development Officer James Allison.

The ineffectiveness of this organization, with its tangled skein of overlapping and ill-defined authority, is obvious in retrospect. Al Hill's task force, for example, overlapped with the Academic Appointments subgroup of the Academic Council, which has final say in faculty appointments. Allison was Opportunity Development Officer, responsible for training programs and the like, but he was submerged in John Wynne's office. Though Wynne headed the Employment subgroup, he was not supposed to function as central authority for employee Affirmative Action — though even HEW thought he was, and in its report criticized him by name.

There were other problems. The Institute had no way of even telling, except in a crude way, where it was lagging in minority or female employment. Prior to 1970, MIT had never broken down its employees into racial or sexual classifications. (A recently-developed computer program now permits continuous updating of such data.)

The basic weakness in MIT's Affirmative Action Plan, however, seems to have been the lack of centralized authority and inadequate publicity. With no one kicking them hard to make intensive searches for women and blacks, most departments made only token efforts, if any. (There were some areas in which progress was made, of course. The percentage of black clerical workers has reached and exceeded parity with the 10% proportion of blacks in the national population.)

MIT has compiled its worst record in the hiring of black and women faculty members. The Institute claims eight black professors with ranks of assistant professor or higher, but this includes three visiting professors. Only two new black professors have been appointed to permanent positions since 1969. But the goal set by the Faculty Council in September of that year remains unamended. In fact, Institute officials have set a goal of 32 black professors (including visitors) by July 1973, and maintain they will meet that goal. If so, that means hiring nine new black professors this year, and another 13 next year. According to figures given by the EOC, there are at this time only three outstanding offers of faculty positions to black candidates. Whether the 1972 or 1973 goals will be reached is a matter of conjecture, but based on past results, the EOC's optimism does not appear well founded.

It is difficult to judge why there have been so few black appointments since 1969. Overt racism is not the likely answer; rather, MIT's dearth of black faculty reflects the relative absence of black people from higher education until quite recently. Black PhD's are still scarce, especially in the engineering fields. They are also difficult to locate; as far as we know, no "master list" of black PhD's (such as the AAAS women's list) exists. But HEW criticized MIT's departments for not making rigorous enough searches for qualified black PhD's, and many departments have been reluctant to change their methods of appointment to accommodate Affirmative Action Plans. Some have argued that recruiting blacks or women implies "lowering standards;" in other cases, a department has been anxious to hire a particular man and, contrary to the AA Plan, has not made proper searches for equally blacks or women.

Affirmative Action, incidentally, does not imply lowering standards or "reverse racism." It obliges departments to seek out minority or female candidates who are as qualified, or more qualified, than comparable white male candidates who might be hired — and to hire them in reasonable number. If none can be found after reasonable search, then the department is under no obligation to hire an underqualified person. Just recently, for example, the Nuclear Engineering department made a strong effort to find a woman for its faculty, but women are so scarce in this very specialized field that NE could find none both qualified and available.

The September 1969 AA plan contained a peculiar provision: "... the Institute's black faculty recruiting program is being undertaken with the explicit intent not to hire faculty members from black colleges and universities thereby depriving these growing institutions of capable academic personnel." That logic is fallacious. Not only does it cut off MIT from a potentially rich source of black faculty, it is patently unfair to the black PhD. Let us imagine that Harvard, Caltech and many other prestigious universities have similar policies. The black PhD is faced with a situation (possibly unknown to him since these AA plans haven't been widely publicized) in which teaching at a black college virtually guarantees a lid being clamped on his upward mobility. The PhD at a black college is denied the choice of moving to MIT or schools with similar policies.

The "initiative" toward more women faculty members did not even begin until last year, so we have little time to see its results — but several departments are reported to be resistant. Moreover, the recruiting of black students which seems likely to swell the number of black PhD's within a few years (particularly in science and engineering) has no counterpart among women. MIT does virtually no recruiting of women students, perpetuating the historical imbalance of women in the professions, and even the ratio of women admitted compared to applications received is still lower than that for men.

With that as an outline of the official background, let us examine MIT's record and prospects in a few highly visible areas.

The under representation of women on the MIT faculty (20 professor out of over 900) is not so simply accounted for by the scarcity of women PhD's. This is true of some fields, especially the engineering ones, but does not account for the absence from the MIT faculty of women in areas where women have been significant for years — such fields as biology (which just got its first woman professor), nutrition (2 out of 30) and management (none out of 58 — Course XV, incidentally, has never awarded a PhD to a woman). One might expect graduate enrollment of women to roughly indicate the presence of women in that field; only one department — Political Science — has women faculty in proportion to graduate female enrollment. The Affirmative Action Plans, as amended under Howard Johnson's directive of last May, call for the hiring of twelve new women faculty this year, and ten the next. There are currently four offers outstanding.

The recruiting of women in the past year has been, in most cases, virtually nonexistent or so sloppy as to be almost insulting. The chemistry department reportedly told the EOC that they weren't going to try very hard to recruit; Snyder ordered the department to rewrite their AA Plan. (Though no department has so far been threatened with loss of appointments and budget, this the stick by which the Academic Appointments Subgroup can enforce compliance.)

Benson Snyder, speaking to CJAC on February 3, noted that the 20 top engineering schools in the country have produced "only about 80 women PhD's in the past five years. Virtually none of them, however, have appeared at MIT. Nor will MIT hire its own women graduates. Several departments have claimed it's because they don't like to become "inbred" — yet, according to the AAUP, MIT is one of the most inbred schools in the country, with nearly half its faculty having earned their graduate degrees here. This excuse is a sham.

The new Affirmative Action plan has a long way to go.

In areas outside faculty hiring, numerous other inequities cropped up in the HEW report. MIT has over 1500 secretaries, but few of them have the opportunity to "move up the ladder" — and if they do, they are often not paid as much as a man doing the same work.

HEW cited 200 instances of this type. Despite MA-5 training programs designed to upgrade unskilled workers into skilled trades, blacks remained under-represented in all areas except the "service workers" category (read custodians). Women are under-represented in all categories except the traditional office roles of secretary and cleaning woman, and librarians; theoretically, MIT ought to be recruiting lady plumbers and electricians.

(Looking over AA Plans and figures supplied by Jim Culliton's office, we encountered some oddities. No mention is made of impending recruiting drives for Spanish-Americans, American Indians, or Orientals, but these classifications exist in the computer printouts. Orientals, as one might expect, make up a disproportionate amount of the faculty (5%). Two for the four Spanish-American professors are due to leave next year. And in 1973, there will be hired one American Indian assistant professor. These goals are of course only guidelines.)

Perhaps the greatest weakness in MIT's Affirmative Action plan to date, however, has been its quiet, near anonymous operation. The secrecy with which MIT likes to shroud such things as salary scales, for example, has made it hard for employees to be aware of unfair income differentials. Though MIT is reluctant to rigidly classify its job categories (as one official said, that forces the institution into rigid stratification), HEW ordered that something be on these lines be done — and made public. The old plan, to date, has not been widely publicized. Few people whom we talked to even realized the EOC existed, and certainly did not know Benson Snyder chaired it. Under HEW's directive, the new plans, including figures and recruiting methods, must be promulgated publicly and down the entire chain of authority (no recalcitrant supervisors allowed). *The Tech* will carry details as they become available.



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# Senate votes rights act hears report on pot

By Norman Sandler  
Washington, D.C. is just now beginning to settle after the political scene was somewhat shaken this last week by the passage of one major piece of legislation and the possible introduction of yet another.

**Women's rights**  
Sweeping through the Senate Wednesday was a constitutional amendment guaranteeing women the right to "absolute equality" with men in all instances before the law.

The proposed amendment, passed by an overwhelming margin of 84-8 after passage in the House last October, will, if enacted, virtually nullify all statutes which currently place women in subordinate positions in state and federal laws. This results in the granting of certain legal and economic rights which women have been calling for for 49 years in the Congress.

Sponsored by a bi-partisan group of senators, the proponents of the bill said the amendment will end discriminatory practices in job application, the type of jobs women may take (many states specify certain jobs which they consider "unsuitable" for female employees), property and business rights for women, admission to colleges, and all other archaic laws which treat women differently as criminals. In addition, the amendment will restore women to a position equal to that of men by ending all current exemptions for women from the draft.

Opponents of the bill, including Republican and Democratic conservatives, argued that passage of the bill would actually infringe upon rights which women have, rather than benefiting them. In response, women's groups have responded that women would "accept the resulting liability."

**Marijuana**  
In other action on the political scene this week, President Nixon's National Commission on Marijuana and Drug Abuse issued a report to the effect that they have determined that the drug causes no permanent damage and recommended to the president that all penalties for possession or use be abolished.

The report followed a full year of intensive study, during which time the Commission did find that a relaxation of the laws may be forthcoming in their recommendations. Shortly after an announcement of the recommendations, the White House issued a statement reaffirming Nixon's opposition to relaxing of the laws, and his firm stand on the issue of drug

abuse. However, with the results of the Commission's study now public, the differences between the drug abuse and marijuana problems will become more legally distinct.

The results did, however, differentiate between buying and selling of the drug, and the actual approval of legalization, as penalties for dealers will remain intact, and some members of the commission expressed disapproval for legalization of marijuana.

Although the penalties for possession for the most part were recommended abolished, there linger a number of distinctions which the Commission made between what should and should not be considered punishable.

For instance, growing of marijuana was recommended to remain a felony, possession or distribution in private were considered to be free from criminal enforcement, possession in public of over one ounce was considered to be criteria for a \$100 fine, and operating a motor vehicle while under the influence was recommended to be a violation, punishable by fine.

The actual findings of the Commission's study, originally called for by Nixon, were based upon drug studies done into the physical effects of marijuana, and stated that short-term effects had no bearing upon the crime rate, juvenile delinquency, or sexual promiscuity. "If anything," stated the report, "marijuana generally serves to inhibit aggressive behavior and aggressive tendencies."

On the subject of long-term effects, the Commission found no evidence of lasting physical, mental, or emotional detrimental side-effects, which have been speculated for quite some time.

It should be noted that the report of the Commission was requested so that national guidelines could be established, however, it appears the report will have little effect upon the President, who will in all probability have the final say concerning national legislation.

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In Boston: TODAY, at City Hall and all Little City Halls, 9 am to 6 pm, and at Boston Public Library, Copley Square, 4 pm to 9 pm. SATURDAY, at City Hall, 9 am to 10 pm; Little City Halls, 9 am to 6 pm; Boston Public Library, 11 am to 6 pm.

Brookline and elsewhere: until 5 pm today, and SATURDAY, noon to 10 pm, at Town and City Halls.

When you go to register, take proof of age (you must be 18 by April 25) and six months residence. Proofs of residence include: listing in 1972 phone directory, lease in your name dated before October 25, 1971, rent receipts, telephone or utility bills dated before October 25, etc.


Questions and hassles - The Student Vote, 547-3286; Cambridge Committee on Voter Registration, 547-1437.

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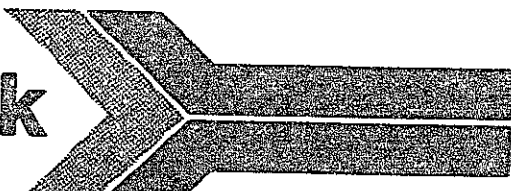
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# Theory explains the occurrence of planets

By Storm Kauffman

Planets are probably a common feature of the universe and will probably be found around most stars, according to John S. Lewis, professor in the departments of Chemistry and Earth and Planetary Sciences.

He knocked those geologists who fail to study the remainder of the solar system: "Any project aimed at the study of the earth would be blind in the extreme to limit its investigation to the earth."

The first datum that must be taken into account is the likely age of the solar system. The maximum age of the universe has been calculated from the Hubble constant, which relates the distance of a receding galaxy to its observed speed, to be about 15 billion years. The oldest meteorites have an appar-

ent age of 4.6 billion years.

Another analysis of meteorites, looking for the isotope Xenon 129 which could only be trapped in its predecay form of radioactive Iodine 129, indicates that synthesis of nuclear material (matter) ceased some 4.8 billion years before now.

Lewis noted some random observations that have been considered. The sun is taken to have a composition representative of the original system, allowing for changes due to nuclear processes. Stars found in the Orion Nebula are believed to be very young: still in the process of collapsing from a hydrogen cloud. The object R Monoceros is behaving as a near perfect Planck radiator of 700 degrees Kelvin and is thought to be a protostar. Lewis pointed out that these and a variety of other diverse findings must be combined into a coherent model of system formation.

There is much more evidence that is closer to home that must be explained. The bulk densities of the terrestrial planets decreases with increasing distance from the sun. The zero pressure densities are known very accurately: Mercury, 5.0; Venus, 4.40; earth, 4.46; Mars, 3.97 grams per cubic centimeter.

Further, the most common meteorites (ordinary chondrites) average 3.9 and the moon has a density of 3.3. Other bodies in the solar system are too distant to have been studied so accurately, but Jupiter and Saturn seem to have the same composition and similar density as the sun while Uranus and Neptune are more compact. The small moons have values guessed to be a little over one, but Titan has been determined to have a density of approximately 2.1 and Jupiters I-IV range from 3.0 to 2.0, density decreasing with increasing distance.

Our greatest store of information is about the earth itself. No rocks as old as those in the meteorites have been found. There is only one formation, Lewis noted, that is aged four billion years, but there are many structures known to be 3.6 billion years old. There is remnant magnetism within these ancient rocks and this indicates that at the time of their formation the earth was already hot enough to have a molten core.

Lewis continued with the structure of the earth. It is layered with an at least partially molten iron core, a silicate mantle, and a crust differentiated into continental and oceanic forms.

Lewis then examined the composition of known rocks: the continental crust has almost all of the uranium, thorium, and potassium deposits. However, using the sun as a reference, there is an apparent depletion of potassium but no similar dearth of the nearly chemically identical sodium. Theories of radioactive heating would require that most of the heat flux of the earth pass through a quarter of the surface (about three-quarters of the energy should pass through a quarter of the surface) but no such systematic difference has been found.

Lewis continued to add to his list of questions. The earth still has a magnetic field which apparently undergoes periodic reversals in polarity. A fantastic amount of energy, over a quintillion ergs per second, is necessary to maintain its observed strength.

Another mechanism that requires a huge expenditure of power is continental drift. Crustal plates are being driven by convection currents in the mantle, and intense heat sources are creating vulcanism in advancing lines such as the Hawaiian Islands. Where is all this energy coming from, asked Lewis.

Lewis at last began to paint

his picture of the creation of the solar system. An immense cloud of interstellar gas and dust, mostly hydrogen, slowly began to collapse due to gravitation. The potential energy of this infall produced a temperature gradient until the center was hot enough for nuclear reactions to begin. The protostar sun is born and when hot enough it blows off the surrounding cloud. However, previous to this blow-off, the heat flux becomes too great to radiate away due to the opacity of the gas. Convection currents begin in the cloud and these are believed to condense into the planets, composition being a function of their temperature and pressure.

A relative abundance of elements is based on hydrogen equals 10,000. Then, helium is 1000, oxygen is ten, carbon nitrogen and neon two, silicon, magnesium, and iron one; and calcium, aluminum, and sulfur are .2. Lewis then supposed an adiabat plotted against the temperature-pressure functions of the condensation of the various materials. Complete chemical equilibrium between the gas and solids was assumed.

Lewis showed that, with decreasing temperature, first calcium oxide, then iron, and then magnesium silicate (which makes up 7/10 of the earth) condense. Further down, iron reacts with sulfur to form iron sulfide and ultimately all metallic iron reacts with oxygen to make iron oxide. As temperature continues to decrease, condensation continues.

This model is that of Cameron's "solar nebula." Lewis pointed out that a graph of the changes in density with decreasing temperature can be drawn from the condensation values. When the lower temperature is considered as greater distance from the sun and the densities of the terrestrial planets are plotted against their distances, they fall precisely on the curve.

Earth should be somewhere between the formation of iron sulfide and oxide. Correspondingly, iron sulfide is the only substance found in all earth rocks while iron oxide is in over 99%. Lewis showed that his assumption that cooling occur-

red near chemical equilibrium was correct as a non-equilibrium model does not provide for the formation of iron compounds.

Analysis of the phenomenon has led Lewis to conclude that the earth formed cold. It heated by adiabatic pressure effect and began to melt before it had reached its present size. Previous theories could not account for such heating early enough as they predicted up to two billion years as being necessary for the formation of a molten core. Lewis believes that they failed to consider the formation of the iron-iron sulfide eutectic which melts at low temperature. The eutectic sinks, less-dense silicate rocks rise and added heat supplied from the energy pulse of this change in gravitation potential energy. Everything heats up faster, and all-in-all the core is produced quite quickly.

Lewis' model predicts a lot of sulfur in the core. Also, sulfid forming elements such as potassium, cesium, and rubidium should have reacted and largely disappeared with the sulfur. Thus, Lewis believes that the outer core, which is less dense than iron, is probably about 15% sulfur. The missing potassium would be in the core and the earth's composition would match that of the meteorite. Potassium is also one of the radioactives and would contribute to the formation of convective currents that carry heat to the surface in a system that matches the meteoritic prediction to two places and jibes with the observed equal flux through ocean and land.

In answer to a question about the origin of the moon and its great divergence in density from that of the earth, Lewis replied that he did not think that the moon was from our neighborhood. It was probably created at a greater distance from the sun than the earth's orbit. Lewis refused to be any more concrete stating, "There are a whole series of lame excuses for the moon and I doubt that mine is any better."

Lewis could make some well-calculated guesses about the structure and composition of the other planets. Mercury is largely iron; Venus has an iron core mantle, and terrestrial type crust but has little or no water, sulfur and iron oxide and lacking a heat source has no magnetism. Mars has no iron core and therefore no magnetic field.

In conclusion, Lewis extended himself even farther. The mechanism he had described was not a chance occurrence: "There is no reason to believe that the planets are any different from those in other solar systems except as variations in the boundary conditions dictate."

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