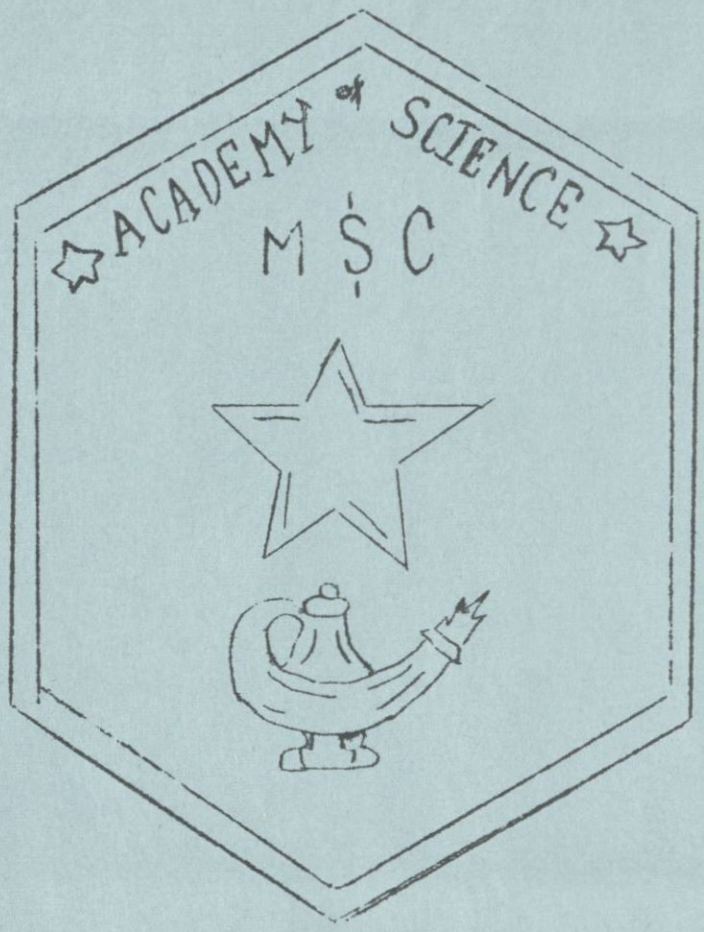
1963

The Hagen, volume 1, number 1 (1963)

Moorhead State College
Collegiate Academy of Science

THE

Vol. I. No. I



HAGEN

MOORHEAD STATE COLLEGE
COLLEGIATE ACADEMY OF SCIENCE

****

Editor in Chief.....Allan A. Brown

Editor at Large.....Rosemary Medin

Contributing Editor.....Lowry Craig

Publicity and Circulation.....Pat Watson

Promotion Director.....Andi Campbell

Special Project Director.....Barry Tennenhouse

EDITORIAL

Many decisions are made either rightly or wrongly on the basis of a like or dislike of a course encountered for the first time. It is partially for this reason that many professors are being asked, "Do we have to know this for the exam?" If the reply is "no," then "omit" is automatically placed in many textbooks. By the time the student reaches his Jr. year, the question is less frequent and in in his Sr. year the average student has matured enough for the question to be regarded as being silly.

The principle value of facts is that they give us something to think about. A textbook of science containing information maybe a matter of choice whether the author leaves it to the reader to formulate his own ideas as to the meaning of these facts or whether he attempts to guide the readers thoughts along what may seem to him-the author- to be the proper channels.

One should not then, scan textbooks and go through courses with a feeling of discouragement and futility not being able to distinguish the grain from the chaff with the only interest of passing an exam. While in Hagen let us as students take in all that we possibly can assimilate so that we finally leave the "Old Hall", all that was taken in is taken out.

Allan Brown

****

WHO'S WHO ON THE EXECUTIVE COMMITTEE OF THE M.S.C. COLLEGIATE ACADEMY OF SCIENCE

Honorary Chairman..... Mr. Thomas Collins (Biology)

President..... Lowry Craig

Vice President..... Don Anderson

Secretary-Treasurer..... Evonne Arneson

Programme Director..... William Schill, Jr.

Biology Chairman..... Doug Oss

Chemistry Chairman..... Gloria West

Physics Chairman..... Pat Watson

Publicity Chairman..... Helga Kvasager

President's Message

A month has been marked off since the country's largest tabloid circulation passed away. At the same time, in another far distant corner of the country, birth was given to the paper of a somewhat different nature. From the christening it emerged with the rather appropriate name "The Hagen."

In these early stages of development, "The Hagen" has been placed in the care of Editor Allan Brown and his staff. This stage is indeed a crucial one in the young life of "The Hagen." Only by careful and proper handling by the Editor and his staff and every member in the Academy, will "The Hagen" grow in scientific stature, broaden in horizontal scope, and serve science in a way which is basically good and morally strong.

In the more advanced embryonic stage the Collegiate Academy demands from all of us similar care and handling.

I feel that each and everyone of us should thank time and circumstances for giving us the opportunity to be on hand at this particular stage.

Let us then as members of the Academy, as students of science, each contribute in our way to the welfare and well being of the Academy and "The Hagen."

Both will die should this duty fail to be carried out. Carry on and both will flourish toward long life.

Lowry Craig

"Every succeeding scientific discovery makes greater nonsense of old time conceptions."

Sir Anthony Eden

THE WORLD OF INSECTS

by Stephen M. Anderson
(Biology)

Perhaps the only time most of us ever consider insects is during the summer when we are forced to combat them. The insects, however, may be regarded as one of the world's most successful form of life, and despite their size, they play a much greater part in the world we live in offering man some of his most serious problems. Of the large number of different species known to man, (approximately a million) only a small percentage of them are harmful. The farmer, the market gardener or even the householder pays "hidden taxes" to the insects without a return on their money. However, every species is interesting in its ways and habits, and the beauty of some such as the moths and butterflies have provided fascinating study and recreation.

Many entomologists are amused at being asked by well meaning friends if they found anything when they went out. However, insect collecting and hunting can be made a game and it is impossible to draw a blank if you know the game. One can never truly say that he knows an insect haunt until he knows where to look for it every hour of every day of the year. It is this fact the economic entomologist uses as a tool against insects because few insects are injurious in all stages of their life cycles and the fight against insects should be started before the injury begins.

Insecticides, and pesticides are quite familiar to all, but the latest weapon in the war is the use of biological controls. While the former concerns itself with stomach poisons, contact insecticides, repellants and attractants, the latter employs the use of other insects and arthropods to control our "insect enemies." It is mainly for this reason that Biological Control has become so important in the last decade. This method of control takes the form of either introduction of new species from other foreign countries or the breeding of different species which are then used as predatory insects. Why constantly cover our environment with unnatural poisons when we can use insect friends to our advantage? However, extreme caution is necessary as the disturbing of the balance of nature can make our "friends" enemies.

Many people tend to group all minute creatures as insects. Contrary to popular belief, such creatures as spiders, centipedes, millipedes, ticks and many small land dwelling crustaceans such as "sow bugs" are insects grouped under the same phylum, that of arthropods.

Because of the vast amount of research still left in the field of entomology, the average layman can often discover unknown facts about our fellow creatures; thus adding his name to the annals of science.

FLASH-FLASH

Who is Adam's father? Come and find out on Monday, November 4th at 8:00 p.m. in the Library Lecture Theatre.

****

ACADEMY NEWS
by Evonne Arneson

The "Academy of Science," one of our newest formed organizations on campus has planned a busy schedule for the coming year and many of the projects are now underway.

At present we are enrolling new members in the Academy. All students on campus who have a major or minor in science are eligible to join. Membership enrolls you not only in the local Academy but also in the Minnesota Academy of Science, and, with this membership you will receive literature from the Minnesota Academy dealing with comments of an academic nature and various recently done research projects. If you are interested and have not yet become a member, please contact any officer of the executive, or science faculty member, or stop in at the Science Office, fourth floor Hagen and they will be happy to assist you.

On Monday, November 4th, the Academy will present a forum dealing with Evolution in the Library Lecture Theatre at 8:00 p.m. This forum will present the creation of man from an evolutionary view point.

Are YOU interested in research? If so, come to the meeting scheduled for 5:00 p.m. on Wednesday at room 413 Hagen Hall.

Other events are being organized but, are still in the planning stage. We hope each member will take an active part in the organization and will be really willing to work for the progress of the Academy.

****

Letters to the Editor, comments and suggestions are welcome. Please forward to Box 286, M.S.C.

ON CAMPUS

Overheard in L^3 (Livingston Lord Library) "Oh magic sleep! Oh comfortable chair."

Fourth floor chemistry lab.
Romour: Chemist had student jump through benzene ring.

Prayer of the Physicists:
"---And preserve us from becoming engineers---"

Fourth floor chemistry lab.
(Qual lab)
Said one hydrogen ion to another:
"Watch your charge"

Crossing the campus:
One co-ed to another: "I was pinned to George last night:
"Oh does that mean your going to get married?"
"I should certainly hope not."

****

DID YOU KNOW?

1. The Aurora Borealis or Northern Lights result when the noble gases, helium, neon, argon, krypton, and xenon, are struck by charged particles such as protons or alpha particles; the gases glow as the particles pass through them.

2. A Japanese atomic clock, using ammonia gas has almost perfect accuracy, with an error factor of one second in fifty years.

3. An ultrasonic dishwasher has been developed which washes dishes, pots, and pans, with high-frequency sound waves in water.

****

As scientists we do not mind lying but we hate inaccuracy.

****

FIELD HOCKEY

The Blackfriars were dramatic in their failure to meet a challenge in the Queen's own field hockey. As of today, all Academy members are deeply mourned their "spiritual" passing away.

Midst shouts, "the game must go on" the Academy members played "fast moving" "scientific" field hockey. The standard of field hockey was extremely high, since the players were not in peak condition and who knew how to play the game.

Flying "Corky" Mork opened up the game with a dart down field only to be suddenly stopped by that steady full back Jim Frisk.

He immediately pushed the ball to his teammate Pat Watson, whose slashing stick delivered it to the opposing goal line. Here he found the M.S.C. miracle miler John Jensen, a physical wreck, Gloria West screaming, and to his own amazement he scored a goal.

Other highlights of the game were, rough play by Evonne Arneson, "sit down" by Helga Kvasager, "knock over" by Don Anderson.

Since neither team would yield to the pressure (P_1) or the temperature (T_1), darkness was brought in to end the game.

Ironically, as darkness stopped the game, she started a new type of Academy spirit. May this continue to grow,

****

Nothing can contribute more to peace of soul than having no opinion at all.

QUOTABLE QUOTES

"Meanwhile back in the embryo."

****

"The major new ideas of the next decade will come from a dozen minds; the major advances in putting those ideas to work will come from a few hundred exceptionally able and well trained scientists and engineers. If we can double that number then we will have surely accelerated the rate of progress. But if we double only at the bottom, and not at the top, then we may indeed doubt whether the effort is worthwhile."

Lee A. Du Bridge

****

Our special thanks to Dr. G. King, Department of Botany, for her contribution.

****

Our special thanks to Pat Siebels and Lu Emmel who devoted their time, talents, and patience typing the first issue of "The Hagen." Good luck to you both in your new jobs.

****

WAN WANDERS:

Dear Wan,
We are girls and we are having a terrible time with the problems in Physics 102. Please help us.

HOPELESS PHYSICISTS

Dear Hopeless Physicists,
Find yourselves a male 'whizicist,' square him, put him in brackets, and divide him by yourselves.

WAN

Wan Wanders will be happy to help you with your problems, personal or otherwise. Send to Box 286, MSC.

****

EDITION SPECIAL

"Listen to the Breezes"

"Are you listening to the breezes?", was a question often posed to his colleagues, by Dr. Bertram MacGarrity, former head of the music department at M.S.C. The point of the inquiry, was an attempt to ascertain if there were an awareness of the currents and cross-currents in action in the overall development, within the college. A similar inquiry, might well warrant serious consideration if applied to the trends of development in science, as a result of the role it is being forced to play in the ever increasing complexity of modern society. The innumerable articles being published, written by scientists, philosophers, and representatives of a variety of professional groups, attests to the importance being attached to the question of, "What is happening to science?", and "What is happening to the scientist?". A brief digest of one such article by means of introductory statements and quotes, follows, with the hope that a presentation of some of the problems facing modern science, may bring an awareness to students of science, that some of the changes taking place, may envolve some alterations in the basic character of science. The review article selected is from the October 25, 1963 issue of Science, published by the American Asscociation for the Advanvement of Science. The Article entitled "The Coming Changes in American Science": Science today is experiencing strains which are altering its basic character, was written by Norman W. Storer, assistant professor of sociology, department of social relations, Harvard University, Cambridge, Mass.

The author indroduces the topic by stating that, "Prediction does not necessarily provide for control, but it can be of vital importance in enabling us to compensate for unavoidable events. The forces now impinging upon American science are producing fundamental changes in the scientific community which, whether we approve of them or not, must be known before we can act intelligently in achieving the best possible adjustment to them."

American Science before 1940

The author describes American science before 1940 as being characterized as receiving little support and apporval from society, as offering little prospect of wealth, social position or community influence and as attracting two groups of people - those committed to research, and those for whom membership in the scientific society represented a rise in social status. He states that "In a social setting where science received little support, it became, to a high degree, a slosed system, since both research output and its rewards were contained in the same community. Basic research flourishes under such conditions, which insures progress along all fronts and provide maximum opportunity for heuristic cross-fertilization... the success of science in a democratic society may be due as much to its being relatively egnored as to the felicitious agreement berween the basic values of science and democracy." He presents the idea that such a society was able to survive in a relatively closed form because of a relatively small number of members and stringent criteria for membership. The difficulty of going through graduate school and finding employment afterward meant selection of members on the basis of devotion to their work. The author concludes, "Lack of support, then, and relative smallness were the major factors which shaped American science in the decades before W.W. II. Employing

(con't) the currency of professional recognition, the community was able to encourage its members to carry out basic research, to report it, and to maintain the system of double-checking its validity. These three elements of science are necessary for the production of new empirical knowledge, but they do not define the character of what is produced."

Consequences of Increased Support and Growth

The introductory paragraph states "I suggest that in American science today this older currency is being gradually replaced by coins minted in the larger society: money, prestige, and power. The new coins will "buy" the three necessary activities(production, dissemination, and evaluation) just as the old ones did, but in themselves these activities do not make up genuine acience as we have known it. My argument is the the new coins coming into greater use within science today are having consequences of the utmost seiousness for the fundamental character of science itself.

The author describes the atmosphere in which new are being trained. "With more money available, it is a rare thing now for a competent young man to have to put himself through graduate school by his own earnings.... From the beginning, he is entering science with the expectation that it will yield a respectable living, This is a major factor in the gradual replacement of professional recognition by rewards native to the rest of society." The above is summarized, "In sum, I am suggesting that....the two sources of change-increasing support from outside and increasing growth inside-are operating to open wide the older, closed-system scientific sommunity which we may still be assuming, or hoping, will be preserved.

The New Structure of Science

The author states some of the characteristics of the new structure of science as follows: "Most subtle, perhaps, but of far-reaching significance is the decline of the informal atmosphere within science...like relationships among people in a metropolis, relationships among scientists will assume a more business like character. There will be fewer and weaker lines of commeunication between the bottom ranks and those at the top. At the same time that these changes are going on we may expect an increase in the splintering of science into subdivisions."

The author concludes his discussion with, "It seems likely that, in the future, science will become a federation instead of a community, or even an aggregate of specialities whose unity lies more in their being classified together by the public than in their own feelings of interdependence and mumual support."

The thought provoking quotation may prove stimulating to the reader. A suggestion might be that if the stimulation is sufficient, a survey of the literature on the topic, might be made by the members of the academy for the basis of discussion by the group.

Dr. Geneveive King
Dept. of Botony