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THE JOURNAL OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

Vol. 60, No. 2

APRIL 1966

Whole No. 479

GENGHIS KHAN AND THE FIVE PLANETS

BY A. VIBERT DOUGLAS
Kingston Centre

HISTORY tells of few more spectacular and ruthless conquerors than the great Mongol emperor Genghis Khan. He lived from 1162 to 1227, succeeding to the Mongol throne at the age of 13. His qualities of leadership soon manifested themselves as he gradually consolidated the several Mongol tribes and began to raid farther and farther east and south into China. Twice he overran most of China, conquering the states of Hia and Kin in the years 1208-14.

Turning his face westward he sent emissaries far inland along the ancient trade route but they were killed and the wrath of Genghis Khan was kindled. In 1219 the great epic of his western conquests and revenge, of looting, massacre and terrorism began. Bokhara and Merv, to the west of Samarkand, fell to his sword. The northern part of India was ravaged. Pushing on around the Caspian Sea in 1222 he conquered Georgia in the Caucasus. The next year he returned to central China.

In 1226 with savage brutality and slaughter he again invaded west China. But that autumn brought with it a rare juxtaposition of the five planets which led the astrologer Yelin Chut'sai to warn the Emperor that Heaven was displeased at the terrible massacre at Tangut. Genghis Khan, smitten with foreboding, perhaps remorse, called a halt to his campaign and turned homewards. He became ill in Kansuh on the bank of the Si-Kiang and he died in August 1227 before reaching his home in Mongolia.

What were the celestial phenomena which led to the abrupt ending of this chapter of history?

In the accompanying graphs the solar and planetary longitudes (taken from the Tables of W. D. Stahlman and O. Gingerich, 1963) are plotted at

Historical Significance of 1226-27 Conjunctions

10-day intervals for the period 1226 November 12 to 1227 January 31. These show that within this period five conjunctions took place, the first two and the last of which involved Mars, planet of the god of war.

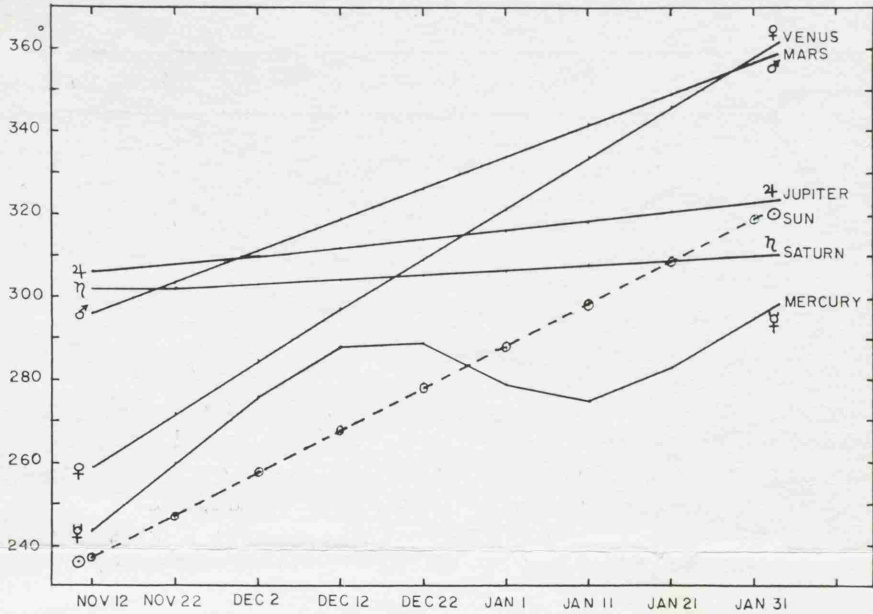


FIG. 1—Solar and planetary longitudes for the period 1226 November 12 to 1227 January 31.

In mid-November of 1226 Jupiter and Saturn were high in the south west at sunset and only 4° apart in longitude. Mars was 6° down the ecliptic but moving rapidly eastward. It passed Saturn about November 20 with Jupiter about 5° to the east and at the same time Mercury and Venus were drawing away from the sun in the evening sky, the former about 13° , the latter about 25° up the ecliptic from the sun on the 22nd. By the end of the month Mars had just passed Jupiter with Saturn only 6° westward, Venus some 20° further west and Mercury 9° beyond Venus.

On December 12 the five planets were spaced almost equidistantly along, or close to, the ecliptic in the order Mars, Jupiter, Saturn, Venus, Mercury—this last being a good 20° east of the sun. Thus the whole five lay in a narrow belt along the ecliptic only 31° in length. By December 18 Venus was passing Saturn, and Mercury was closing in on the sun. About December 27 Venus passed Jupiter, and on January 28 Venus passed Mars, the last of five conjunctions in just over two months.

Sent to Paris
1967 Dec 13

Abstract

Historical Significance of 1226-27 Conjunctions
by A. Vibert Douglas.

Thanks to computer tables of planetary longitudes, it is possible to plot the conjunctions of Mars with Saturn, Jupiter and Venus in late November ¹²²⁶ and A.D. and in January, 1227 A.D. Al Biruni's ^{elementary} ~~has been~~ consulted in order to understand why these three conjunctions were considered to be unfavorable to war-like ventures to such an extent that the astrologers ^{accompanying} ~~with~~ Jenghis Khan successfully urged him to abandon his ~~crucial conquests and~~ ^{savage} campaign of conquest in west China in 1226-27.

It requires but little imagination to visualize this spectacular display of planets in the evening sky, the ever-changing pattern and the succession of conjunctions, presented to the critical gaze of the astrologers and to the perplexed and wondering gaze of the great Genghis Khan as the year 1226 drew to its close.

For drawing my attention to this astronomical problem I am indebted to an historian, Miss Ethel Stewart, whose studies of the legends of migration of the Koutchin Indians into southern Alaska have led her deeply into Mongolian history.

1967 Oct 23 Write Director. Mus. Art & Ethnography
Bangalore
Why were these conjunctions 'unpropitious'?
Must man be 'lord' of the 'face' of a sign of ♄
for a battle to be favourable.

A GEOLOGIST LOOKS AT RELIGION

G. VIBERT DOUGLAS

HOMO sapiens has existed on the surface of this planet for about a million or more years. Before his appearance, life both animal and vegetable existed for many hundred millions of years. These are all fairly well established facts. They can be read in any text-book of historical geology, especially those published in the last fifty years.

In contrast to the antiquity of the geological record, Christianity is a recent event. But any event which affects this Earth in any of its aspects, whether ancient or modern, has to be considered by the impartial investigator. One of the most fundamental things that Christianity teaches is that God is love. The geological record on the other hand shews that the "Prime Mover" created and set at work a universe which is obeying certain sublime laws (such as the law of gravitation). These laws are invariable, but may bring, and are thought to have brought, about certain chance events such as the formation of our whole solar system. In their operation they may bring destruction to living matter, and might in the future wipe out the whole human race. The geological record further shews that before the advent of man on the earth, life existed by the ruthless destruction of life; just as it does now in the animal kingdom. There was no mercy when the sharks made their appearance and dominated the seas of the world by feeding on all other forms of life weaker than themselves. There is no love exhibited in the geological record prior to the advent of man. Yet we are told that God is love. How are these two antipodal views to be reconciled? An attempt at reconciliation will be possible only if we are honest and fearless. Fearless, for we must be capable of disregarding any "authority" just because he is a saint or because we admire him or her as a human person. Honest, for we must throw out all arguments or ideas which we have not the strongest evidence for believing. The philosopher may object to this last statement by saying that ultimate knowledge is impossible. The geologist stands on an outcrop and examines it. His purpose is to find out all the true facts that this exposure can tell him. What is the nature of the rock, what is its posture, what is its history, what is its significance? There is an ultimate truth regarding that outcrop.

THE DALHOUSIE REVIEW

Any geologist examining that rock may reach that truth or he may only approach that truth. It may be that no observer or group of observers will hit upon the ultimate truth, but nevertheless they can all be honest in their convictions regarding their findings. Somebody bearing a great name in geology may have pronounced his opinion, a quite honest but possibly erroneous opinion. The authoritarian pronouncement should be respected, but each observer must be free to differ, otherwise he is not an honest observer. A further point is that the supposed observer must approach the outcrop with an open mind; the mind of a little child in its receptivity.

In the light of this approach we shall examine the statement "God is love." Is there a God, and is he loving? Few persons living will doubt the existence of some Originator. Behind matter, behind energy, behind space, behind time, what is there? No scientist has a better answer than Leonardo da Vinci's Great Prime Mover. No writer in the Old Testament has a better answer than Isaiah's "Lift up your eyes on high and behold who hath created these things." Ultimately the basic idea of God is founded on some such conception. The Old Testament attributes of God, justice and mercy, are augmented in the New Testament by the idea of a loving Father. The idea of love is therefore recent in the history of life. How can the views of a deity, author of the most ferocious ruthlessness and at the same time author of the idea of loving kindness, be reconciled? Does the nature of God change, or has God created an order of change? That the nature of God should change would imply chaos and the doom of man as a rational being, but the whole idea of an order of change is contained in the doctrine of evolution. Within this doctrine is the comparatively new idea of *holism*—the making of wholes as a process in Nature. The conception of holism leads to a view of immortality. Over the range of time of which we have any knowledge, possibly two thousand million years, we can see some notable steps in the organic life of the planet. The first is the beginning of life—the first complex molecule that began to pulsate. This event took place in the era known to geologists as the Precambrian. The next great event occurring some time in the Palaeozoic was the beginning of thought—instinct. This attribute continued developing until the third great increment to development came with what may be called spirit. As this term has been used in so many ways, it will require some definition. Spirit in the sense used here means all that part of an intelligent brain which is not common to lower animals:—the power to investigate the nature of things, the power to appreciate

A GEOLOGIST LOOKS AT RELIGION

beauty, the power to discern goodness. If this spirit can unravel the laws of the universe, it is not unreasonable to suggest that it is of the same sort of "stuff" as the Spirit that endowed the universe with these laws. It is further not unreasonable to suggest that as the existence of man on this Earth is a recent event in geological history, the Original Spirit is also in existence and this Original Spirit or Prime Mover has persisted throughout the whole of known time. There is no evidence that development has ceased or will cease. If the spirit of man is of the same nature as the spirit of the Prime Mover, why should it not persist?

The whole of human history is the story of a great development in ideas. Not always is this development gradual. There are sudden increments. Confucius, Socrates, Plato and Christ are names associated with sudden new creative ideas. Of all the ideas associated with the welfare of mankind in actual practice, Christ's teachings seem supreme. What is the main theme of Christ's teaching? Is it not just this—He is pointing out that the way of life is the way of loving kindness. The alternative to this way is the utterly ruthless ferocity of the struggle for survival. Mankind will pass, as other species have passed, if ruthlessness is placed as the way of life. Where are the trilobites that flourished in the Palaeozoic, where are the dinosaurs that plodded over the mudflats of the Mesozoic? Where are the other species of life that lived and developed and have left only a trace in the records of palaeontology? But the way of Christ points out how the human race can persist, and as far as we know it points the only way. If, as we believe, this statement is true, would it not be reasonable to lay emphasis on that part of Christianity which deals with the way of life? A Christian who tried to follow that way with the open mind of a child might be doing more for the human race than one who repeated a Creed and based his claim to Christianity on certain beliefs which may or may not be substantiated by facts. Why cannot the Christian Churches all unite on the simple basis of pursuing the way as laid down in the teachings of Christ in the four Gospels? The questions of belief in this doctrine or that doctrine need not cause dissension and strife. If one body wishes to hold one idea of the Trinity and another body is on that point very different, it does not matter. The way of life remains untouched and unobscured.

The account of Christ's life and teaching given in the Gospels is a simple story. It tells of his sojourning here and there, and it gives some account of His teaching. That teaching consists of simple, practical commands which constitute the Way of Life. It is not a philosophy as we understand the word. Much harm has

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come from trying to invent a philosophy to suit the teachings of Christ. If philosophy was infallible, if all philosophers starting with the same premise could arrive at the same conclusion, there might be some justification for a Christian philosophy.

The history of the development of scientific thought in geology or any other science shews that as soon as any thinker begins to theorize and gets away from facts, experiments or mathematical deductions based on facts, his mind cannot be trusted.

If this is known to be so in science and philosophy, it is equally true when philosophy is applied to religion. Why should man-made theories be allowed to form the basis of true religion? Should not the search for the truth of the Christian religion be rather the search for the way in which each individual can interpret the direct words of Christ Himself, unobscured by philosophies and dogmas? A geologist deals with the actual facts seen on an outcrop, and by these traces the truth about the whole geological problem of some area.

By taking Christ's teachings as our principles and by applying them pragmatically to life, as does the geologist with *his* principles and the facts relating to his area, it is very probable that we should unfold truth in relation to the problems of society.

The susceptibilities of those holding to creeds and dogmas cannot be hurt by emphasis on action regulated by the direct teachings of Christ as found in the Gospels. With the genuine zeal of the true believers of various Christian denominations directed to this end, it is possible that the Way of Life forms *the* common basis for immediate co-operative action.

GEORGES LEMAÎTRE, 1894-1966

BY A. VIBERT DOUGLAS

Kingston Centre

ON June 20, 1966, Georges Lemaître died in Louvain. For many of us who were privileged to know him, and who remember vividly the great years of the 1920's and 1930's in astrophysics and cosmology, his passing leaves much sadness.

I first met him in 1924 at the luncheon arranged by the late Dr. C. A. Chant for the 38 astronomers of seven nationalities attending the British Association meetings in Toronto. The next occasion was at the Yerkes Observatory in the summer of 1925 when I was there as a volunteer research assistant. Lemaître came for a brief stay as the holder of a travelling fellowship. He had just completed a year of research under Sir Arthur Eddington at Cambridge and as I had left this university in 1923 only a few months before his arrival, we reminisced at length about the Cambridge of Rutherford and Eddington, the towering giants of those unforgettable years.

Georges Lemaître was born in Charleroi, Belgium, on July 17, 1894. He served as a *poilu* during the first world war, then entered the Jesuit University of Louvain and specialized in applied mathematics, taking also theological studies leading to ordination with the clerical rank of Abbé in 1922. After post-graduate training in the United States at Harvard and Massachusetts Institute of Technology, where he received his Ph.D., he was appointed Professor of Astrophysics at Louvain. Eventually, he became Professor of Applied Mathematics and was elevated to the clerical rank of Canon and later to the rank of Monseigneur. During a period of forty years of association with the university, he devoted his talents to research and teaching.

In 1927, independent of earlier little-known work by Friedmann, Lemaître developed and published in Brussels his theory of the expanding universe. This paper made no stir in the scientific community and remained practically unknown for three years until he sent a reprint to Eddington who recognized at once the stroke of genius behind it. The Einstein universe was not stable, it must expand or contract and Lemaître had worked out the geometry of a universe whose radius of curvature was a function of time. At the May meeting of the Royal Astronomical Society, Eddington reported Lemaître's results and proceeded to discuss the expanding universe. This he treated as an intermediate stage between the Einstein and the de Sitter forms of the universe,

identifying the spectroscopically-determined recession of the galaxies with this expansion and welcoming it as an indication of curvature of space. He then departed from Lemaître's "primeval atom", for which he expressed an aesthetic dislike, to calculate the mass of the universe and its radius at the Einstein stage from which he believed the expansion had started. Overnight the name and fame of Lemaître became known and his "fireworks theory"—his own expression—captured popular imagination.

During the decade which followed, Lemaître twice visited Mount Wilson, each time passing through Montreal and lecturing on the latest developments in cosmology to members of the Montreal Centre of The Royal Astronomical Society of Canada and the McGill Physical Society. I recall well how friendly he was, and full of Gallic charm, at a small dinner in our home where a few friends had gathered to meet him informally.

He was with us at Magog, just south of Montreal, during the total solar eclipse in the late summer of 1932, where astronomers from several countries had assembled their instruments. As he was purely an observer, the site director, Col. F. J. M. Stratton, ordered him off the enclosure. Lemaître was greatly surprised—to put it mildly—and confided his curt dismissal to me. I thought he should be invited into the McGill section where our spectrograph had been erected, but deemed it courteous to inform Col. Stratton. In his vigorous, impetuous, determined manner he replied: "I won't have an irresponsible man like Lemaître on the grounds—why, at my first rehearsal I found him stepping into the line of my heliostat!" However, members of the McGill Group did not find him irresponsible! Actually we all stood under the same cloud during those crucial minutes of totality. I recall a remark which the Abbé made on one occasion, "I am glad I cannot control the weather—if I could I would be the busiest man on earth!"

After the holocaust of the second world war, I saw Lemaître in Zurich at the 1948 General Assembly of the I.A.U. His grief over Eddington's death late in 1944 at an age of only 62 years was very evident. He told me of his deep belief that something very worth while lay behind the provocative ideas of Eddington's unfinished, mystifying Fundamental Theory and that he was attempting to unravel some of its mathematical obscurities.

We met again in Rome at the I.A.U. meeting in 1952 when Baade announced his new period-magnitude relation for the two types of Cepheid variables. I asked Lemaître if this shook his faith in Eddington's inter-relations between the constants of nature. I well remember his reply that it did not, and how he added the suggestion that an arith-

metical constant could easily slip in erroneously. Three years later, this was fully confirmed when I was discussing Whittaker's edition of *Fundamental Theory* with N. B. Slater in Leeds and realized the numerical factor Slater had isolated in Eddington's work would reduce his value of the recession constant to that determined by Baade.

I do not recall that Lemaître was in Dublin for the 1955 I.A.U. nor did he go to Moscow in 1958, but he was in Berkeley, working on stellar models at the computer centre when the I.A.U. met there during the summer of 1961. One day when we had both deserted a rather tedious session, he took me to see his comfortable quarters in the Faculty Club and to the Computer Centre nearby, where he eagerly reached for a result card. One glance was enough to make him say, "I have not programmed it rightly", after which we went in search of a cafeteria serving afternoon tea—a long, hot quest but ultimately successful. He enjoyed the excursion to the Napa Valley and several members of the Canadian delegation will recall chatting with him after the luncheon.

But my longest talks with Lemaître took place in his office in Louvain and later in his study in Brussels in the spring of 1954. He had gathered letters and pictures of Eddington and had made photostatic copies for me. A letter about relativity problems from Eddington to De Donder in Brussels (who had passed it on to Lemaître) concluded with the following tribute: "I found M. Lemaître a very brilliant student, wonderfully quick and clear-sighted, and of great mathematical ability. He did some excellent work whilst here In case his name is considered for any post in Belgium I would be able to give him my strongest recommendations". As I read this, Lemaître chuckled and remarked how little Eddington realized that any recommendation coming by way of the Free University of Brussels would be complete anathema to the officials at the University of Louvain! He deplored the lack of co-operation and interchange of ideas between these two institutions.

He was living at this time in Brussels where he made a home for his widowed mother, and travelled daily with a colleague by car to and from Louvain. In his office at the University were small framed portraits of both his parents. Most of his books and reprints were in his study in Brussels. He talked about Eddington, his power as a mathematician, his weakness as a philosopher; about Stoner and relativistic degeneracy; about Dingle's attitude to theories not founded on observations, an approach of which he approved; but at the same time he believed that Jordan, Bondi and Hoyle had a perfect right to follow their own line of thought in their own way. Their cosmological principle he considered unnecessary and their deductions unsatisfying. He had been reading

E. A. Milne's recent book on God and asked my opinion of it—to me it was completely unconvincing; he termed it naive, preferring the conception of a God not deduced from scientific theories, as had Eddington also. He gave me a reprint of his tribute to Eddington, published in *Ciel et Terre*, written in words which apply equally well to himself some twenty-two years later: "this professor who has guided and inspired so many early efforts on the part of beginners" and expressing "the grief of all who have been associated with him and profited by his teaching and his advice".

The award by the Royal Astronomical Society of the first Eddington Medal to Georges Lemaître in 1953 was an honour which he deeply appreciated and richly deserved. A more recent honour was his appointment in 1960 as president of the Pontifical Academy of Sciences in Rome, a position he filled with distinction until the time of his death.

Growing Materialism Needs Spiritual Aid

By A. VIBERT DOUGLAS

The death of Sir Arthur S. Eddington a year ago removed not only one of the ablest scientists of the age but a philosopher with a weighty message for this difficult time of unrest and uncertainty. In this article the Dean of Women of Queen's University, herself a scientist and member of a family of scientists, tells something of what the Eddington message means.

ONE year has gone by since the death of Sir Arthur Stanley Eddington in Cambridge on November 22, 1944. In his passing, science lost one of her most illustrious exponents, superbly endowed with mathematical ability and insight, and the world lost one of the noblest of the sons of men.

A recent editorial in SATURDAY NIGHT, quotes Eddington's jocular answer to the question, "What is the universe?"—an answer in which he harks back to the thinking of the Kelvin era, "Probably a vortex in the ether". In more serious vein he has written, "The physical universe is defined as the theme of physical knowledge: . . . it is neither wholly subjective nor wholly objective—a simple mixture of subjective and objective entities or attributes." Here Eddington was writing as a physicist who was also a meta-physician. But Eddington was more. He was an all-round man and thinker, who realized that the whole range of experiences of life is of importance, not only the measurable aspects which form the raw material of physical science, but also the immeasurable aspects such as man's recognition of values, his response to beauty in nature, in art, in human personality, and his sense of a divine element within and without his own spirit, "an Inner Light of conviction and guidance." For him no philosophy is complete which does not embrace both types of experience, and it is the same urge from within man's spirit which drives him to seek truth and evaluate experience in the two realms.

"Man is a being to whom Truth matters"—this for Eddington is one of the most significant and important

of the facts of observation in a survey of a universe of which the surveyor is himself a part.

"Truth", wrote Eddington, "is a diamond with many facets", and elsewhere, "I find no disharmony between a philosophy which embraces the wider significance of human experience and the specialized philosophy of physical science", and in another book, "I assert that the nature of all reality is spiritual."

The editorial above referred to sounds a ringing challenge to those who believe in "a God, a Creative Purpose dominating the life of man—to forget petty arguments about creeds and rituals"—to reach out to "the spiritual dynamic." It is a challenge to all who believe in spiritual values to face the startlingly urgent task of saving a world, top-heavy with potentially destructive and devastating power, a world lacking enough of the fundamental virtue of unselfish kindness. Sir Arthur Eddington had his message along these lines:—

"The crucial point for us is . . . a conviction of the revelation of a supreme God. . . the revelation in a life that was lived nineteen hundred years ago. . . the revelation implied in the indwelling of the divine Spirit in the mind of man. . . How difficult to convey the scientific spirit of seeking which fulfils itself in the tortuous course of progress towards truth! You will understand the true spirit neither of science nor of religion unless seeking is placed in the forefront. . . The spirit of seeking which animates us refuses to regard any kind of creed as its goal. Rejection of creed is not inconsistent with being possessed by a living belief."

A Living, Simple Belief

Only a living belief that is essentially simple can have a universal appeal—not a belief trammelled by dogma and ambiguous creeds. A writer in the *Modern Churchman* recently called for a return to the religion of Jesus Christ as distinct from the many forms of religion about Him. What was His religion? Need one do more than sum it up as allegiance to and comradeship with God the Father, and self-dedication to the services of mankind?

Unless Christians and non-Christians everywhere cease stressing their differences and concentrate on these basic essentials, there seems no hope of spreading over the earth that sense of brotherhood that alone can lead to integrity of conduct and to the spirit of kindness.

No one could read through the briefs on religion submitted by young people from coast to coast at the request of the Canadian Youth Commission without realizing two things: first, that formal statements of religious belief are meaning less and less to vast numbers of the young people, saving to them of cant and hypocrisy because not expressive of their own feelings and experiences; and second, that the golden rule, the latter half of the "new commandment", is deeply imbedded in their thinking, that it is both implicit and explicit in their philosophy of life, and in so far as it expresses itself in their actions they are Christians in a fundamental sense. Organized Christianity must recognize this potential and actively exert force for good—recognize it, encourage and cooperate with it, not disown and alienate it.

The great religions of the world have organizations which should now be harnessed to pull together towards one end, a mighty force for spreading the spirit of brotherhood and kindness. There must be a kernel of truth in each religion or it would not

have survived—this is a basic faith. As Whitehead expressed it, "the instability of evil is the moral order of the world." In all nations, races and creeds, there are those who recognize a distinction between good and evil, and something deep in the consciousness of men tells them that it is nobler to be kind than to be unkind. This is the spirit of Christ, and whether it be recognized as such or not is of less importance than that it become the dominating spirit of mankind. In this lies the hope of the world.

Individual Unselfishness

Until that time, the terrifyingly ominous shadow of the possible misuse of atomic and human energy will lie darkly upon the earth. The inference of the editorial is very clear and very true—only a way of life built upon unselfishness practised individually, nationally and internationally, can bring freedom from fear of terror by night and of destruction that wasteth at noonday.

We read of United Nations Conference on monetary problems, agricultural problems, educational problems. Will the leaders of no great religious group suggest a United Nations conference on spiritual problems, where the recognized spokesmen of Mohammedism, Buddhism, Shintoism, Judaism and Christianity would meet as children of one God to

harness all the vast resources of religion and focus all spiritual effort existent upon the earth towards the one supreme task of furthering kindness and good will among men without which there can be no peace on earth. The churches, mosques, synagogues and temples of the world should resound with a common message to all mankind.



Obviously glad to be home again are these Nigerian troops who served in Burma behind the Jap lines with Gen. Wingate's famous Chindit forces.



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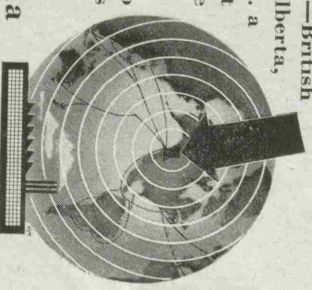
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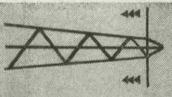
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the **JOURNAL**
of the **ROYAL ASTRONOMICAL**
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devoted to the advancement of astronomy
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JUNE 1971

volume 65, number 3
whole number 510

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(The officers of the Centres are printed in the *Supplement*, p. 19)

HISTORICAL SIGNIFICANCE OF FIVE CONJUNCTIONS, 1226–27*

BY A. VIBERT DOUGLAS

Kingston Centre

History records no more spectacular and ruthless conqueror than the great Mongol emperor Genghis Khan who lived from 1162 to 1227. In an earlier paper (Douglas 1966) it was shown that the sudden decision to end his military campaign in west China in 1226 and to withdraw his armies to Mongolia was probably based on astrological interpretations of an unusual configuration of the planets. Genghis Khan died in August 1227 before reaching his homeland.

Two questions arise: 1.—What were the celestial phenomena which led to the abrupt ending of this chapter of history? 2.—What were the astrological reasons for interpreting these phenomena as unpropitious?

The answer to the first question was found by plotting the solar and planetary longitudes, as given in the tables of Stahlman and Gingerich (1963) for 10-day intervals over the period 1226 November 12 to 1227 January 31. The graphs are shown in figure 1 and indicate the presence of the five known planets in the south-western sky at sunset during November and more than half of December 1226. Mercury then drew closer to the Sun and after conjunction with it, passed into the morning sky at the end of the year. Five interplanetary conjunctions are seen to have occurred between November 20 and January 28, three of these involving the planet Mars, traditionally associated with war. The zodiacal background for this spectacular procession of the planets is successively Capricornus, Aquarius and Pisces. About December 12 the five planets were almost equally spaced along or close to the ecliptic in order eastward from the western horizon, Mercury, Venus, Saturn, Jupiter, Mars, an array which would not occur again in many hundreds of years.

The first of the five conjunctions involved Mars and Saturn, with Mars moving eastward more rapidly than Saturn and passing it about November 20 when Jupiter was some 5° further east. The second conjunction occurred when Mars came into alignment with Jupiter at the end of November. The third involved Venus and Saturn about December 18 with Venus moving rapidly eastward. By December 27 the fourth conjunction took place when Venus passed Jupiter. The fifth occurred a month later about January 28 when Venus overtook Mars. By that date Saturn had already passed the Sun into the pre-dawn sky and Jupiter was to follow suit in early February. Thus

*Based on a paper read at the XIIth Congress of History of Science, held in Paris, 1968.

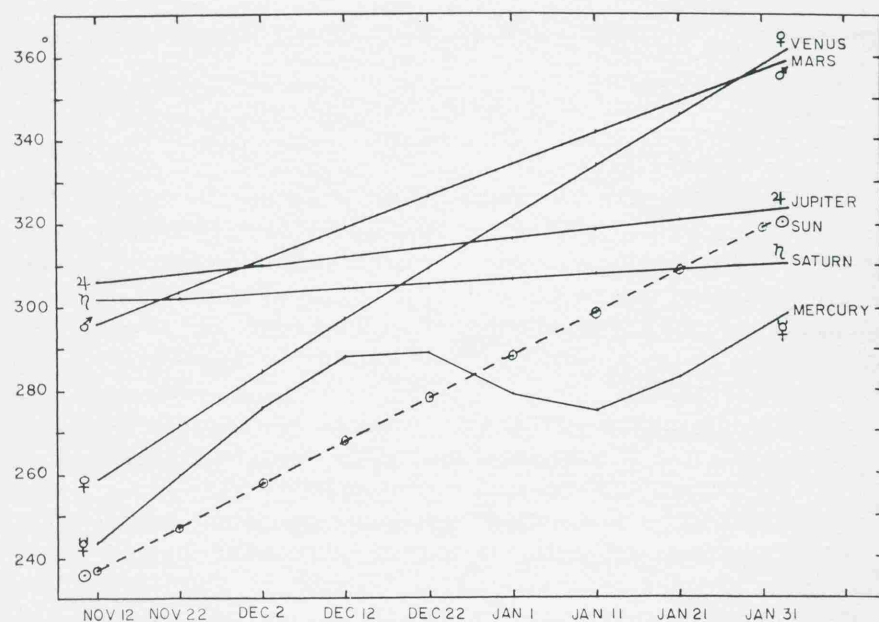


FIG. 1—Solar and planetary longitudes for the period 1226 November 12 to 1227 January 31.

in just over two months five interplanetary conjunctions and three solar-planetary conjunctions had occurred.

The answer to the second question is less accurately ascertainable. An astrophysicist attempting to trace out a path amid the mysteries of astrology is like a wanderer in treacherous boggy country, finding few firm footholds and somewhat bewildered by the swirling mists of influences and counter-influences. The sources of the astrological arguments which follow are Al Biruni's *Elements* and an Indian geologist T. N. K. Gopaldaswami, to whom the author is deeply indebted.

Al Biruni explains how each Sign of the Zodiac is divided into three faces with one of the five planets or Sun or Moon being Lord over each face. Persians, Greeks and Hindus agreed that Mars is Lord of the first face of the first Sign, Aries, with the Sun, Venus, Mercury, Moon, Saturn and Jupiter being successively Lord of the succeeding faces, with repetition in this order throughout the Zodiac. The Hindu system made the Lord of the first face dominant over the Lords of the second and third faces; the Persians gave to each Lord his full authority. Since Mars is not Lord over any face of Capricornus or Aquarius or Pisces in which the five conjunctions occurred, it follows that the influence of Mars could not be paramount at any of the

times and hence the conjunctions could not be considered propitious according to the Persian and Greek systems. Since Mars was not Lord of the first face of any one of these Signs, the conjunctions could not be favourable according to the Hindu system. Whichever system the Mongol astrologers used the result is the same—all five conjunctions unpropitious for Genghis Khan's campaign.

T. N. K. Gopaldaswami is a follower of the school of thought of a leading authority on modern Hindu astrology, Prof. B. V. Raman of Bangalore. The discussion which follows is based on his interpretations. The day of Genghis Khan's birth in the year 1162 is unknown, but since many historians rank him second to none among the great conquerors mankind has known, there appears to be a strong probability that he was born under the favourable influence of Mars. This would occur when the sun is in Aries (April 21–May 21) or in Scorpius (November 21–December 21) since in both these constellations Mars is said to be in his own House. In the movable Zodiac system of Hindu astrology, Sayana system, the traditional significance attached to the Signs remain attached to the corresponding constellations thus shifting the Sign in accordance with the precessional movement of the Spring Equinox, which in 1226 was in the first third of the constellation of Pisces.

The first conjunction, Mars and Saturn, occurred far on in Capricornus when these planets were very nearly entering Aquarius and therefore not totally unaffected by influences from the latter where Venus dominates and is always antagonistic to Mars. The Sun is Lord of the third face of Capricornus where the conjunction occurred and Jupiter is the dominant influence in the first face. True, Mars is Lord of the second face but Saturn is in his own House and can neutralize the influence of Mars. Hence for two reasons this was not a favourable omen.

The second conjunction, Mars and Jupiter, took place in the first face of Aquarius where Venus is Lord. Between Venus and Mars permanent enmity exists, neither Mars nor Jupiter holds a Lordship in this Sign, so Venus dominates. This is again unfavourable to the making of war.

The third conjunction, Venus and Saturn, was in Capricornus nearing Aquarius and therefore, as in the first conjunction, it was decidedly unpropitious. Quite apart from the above argument, this conjunction could be propitious for persons born under Capricornus and Aquarius. That his astrologer did not interpret it in this way is an argument against Genghis Khan having been born between January 21 and March 21.

The fourth conjunction, Venus and Jupiter, occurred in Aquarius where Venus is Lord of the first face and Saturn is in his own House. Both are unfriendly to Mars. The conjunction is an omen of great uncertainty and

following so closely on three unfavourable ones it might well have caused his advisers to urge Genghis Khan to abandon his campaign and his lust for conquest and bloodshed—especially as they could undoubtedly foresee that Venus would overtake Mars at a time not five weeks distant when the portents would be exceedingly ominous, if not calamitous.

This fifth conjunction, Venus and Mars, about January 25, 1227, took place in the Sign of Pisces. Here Venus is exalted and for a person born under the beneficent influence of Mars—as presumably Genghis Khan was—this conjunction would be a portent of dire misfortune, perhaps even death. Saturn is dominant as Lord of the first face, in which face the conjunction occurred; and as the planets had just moved out of Aquarius a carry-over influence antagonistic to Mars would be exerted by the dominant Venus.

Some or all of these arguments and perhaps other arguments unknown to the writer carried so much weight in Asia in 1226 that one of the world's greatest conquerors in the flush of victory brought his campaign to a sudden termination, commanding his armies to retreat to their Mongolian homeland. Had he any foreboding that he, the great Genghis Khan, would not live to reach his home? One chapter of history had come to an end as a direct result of astrological interpretation of astronomical events.

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HISTORY OF ASTRONOMY AT PRAGUE, 1967

BY A. VIBERT DOUGLAS

Kingston Centre

IN conjunction with the Prague Congress of the International Astronomical Union in August 1967, two exhibitions were arranged. The one, an International Exhibition of Astronomical Instruments, displayed the many instruments, large and small, designed to meet the manifold demands of today's astronomers and space scientists. It occupied spacious exhibition rooms in a building in the heart of old Prague. The contributors included Carl Zeiss of Jena (East Germany), Grubb Parsons of London and Schwarz und Rhode of Munich (West Germany).

The other exhibition was entitled *Development of Astronomy in Czechoslovakia*. This was admirably displayed in the Summer Palace, a "gem of Renaissance architecture", high on Hradcany Castle hill on the left bank of the Vltava, about a ten-minute walk from the headquarters of the I.A.U. in the Faculty of Law across the river in the old city. This was the site of some of Tycho Brahe's work during the brief years of his residence in Prague, 1599–1601. On his death in 1601, his body was interred close to the chancel of the great Tyn Church. Johannes Kepler, who had come to Prague from the University of Gratz to be his assistant in 1600, had considerable difficulty in obtaining access to Brahe's valuable observations of Mars, but in spite of sore afflictions both personal and financial, he succeeded in carrying through his painstaking studies which led to his three great laws of planetary motion. All this was reflected in the exhibits of the published works and manuscripts of Brahe and Kepler; the latter remained in Prague from 1600 to 1612, supposedly under the patronage of Emperor Rudolph II.

Earlier Czechoslovak astronomical works on exhibit included records made at the court of King Wenceslas (1278–1305), and a beautiful coloured print of the great comet of 1577. Charles IV had founded the University of Prague which bears his name, in 1348. Astronomy was a main subject of instruction from the beginning and this had its influence on the younger universities of Cracow, Vienna and Leipsig. A 15th Century *Treatise on the Astrolabe* was on view, and the details of calculation and design by Jan Sindel of the famous astronomical clock in the City Hall Tower, constructed by Nicolas of Kadan in 1410—a clock whose lower face indicates the relative positions of sun, moon and planets against the background of the zodiac, and above the time face, a procession of the twelve apostles occurs at 10 a.m. and 5 p.m. daily.

The exhibition made it clear that under the Hussites astronomical research flourished, indeed it was Professor Hajec of Charles University who was really responsible for bringing both Brahe and Kepler to Prague. Hajec's book of 1578 was there, together with his detailed work on the nova of 1572 proving it to be beyond the orbit of the moon! But when the Hussites were defeated in 1620 in the Battle of White Mountain, liberal thought was discouraged and teaching of the heliocentric theory was forbidden.

More modern exhibits included a huge baroque golden celestial globe of 1720, letters from Bode (1812), Fraunhofer (1816), Littnow (1828), early quadrants and a transit circle.

The official opening of this exhibition was accompanied by the inevitable speeches and, more enjoyable, several selections of baroque Czech music played on a tiny spinnet with violin, cello, viola, flute and a tenor voice.

Two meetings were held of I.A.U. Commission 41 (History of Astronomy). One was purely a business session. The president, Professor Rybka (Cracow), reported a large amount of recent historical work, with lists of contributors from 17 countries, covering 10 pages of the published report. A resolution was sent forward to the General Assembly urging the preservation of all instruments of historic value and also records including personal papers which in years to come will be of significant value.

The second session was devoted to the presentation of five papers, two of which particularly interested the writer of this report. Winfried Petri of Munich discussed the influence of Indian culture on astronomical teaching in mediaeval Central Asia. Fragments of Uigur texts preserved in the oasis of Turfan have been studied by members of the Berlin Academy of Science. Two lists are given of lunar "mansions", the durations of the moon's passage through successive parts of the zodiac. Uigur and Tibetan data are in good agreement with the data of Al Biruni, but the Tibetan are closer to the direct Hindu tradition. Another Uigur fragment deals with the sidereal month and an "asterism of seven stars". Buddhist monks and Indian missionaries carried cultural relations to Tibet and China, while Tibetan and Chinese pilgrims to the sacred places of India took back to their homelands the influences of Indian thought.

An Armenian astronomer at Burakan Observatory, E. S. Parsamian, described archaeological work in conjunction with K. A. Mkrtychian, at a site some 20 miles west of Yerevan where a large city must have existed about 2800 B.C. by the river Metsamor; possibly the inhabitants were worshippers of Sirius since three artificial terraces on a hill above the river show a south to north orientation and have stone markings indicating

stars. The main line of sight could indicate the rising point of Sirius at 4 a.m. at the summer solstice about 2800 B.C. Diggings have only been in progress for two years and are being eagerly pushed forward.

Dr. E. Rybka (Poland) was re-elected as President of Commission 41, with Dr. O. J. Gingerich (U.S.A.) as Vice-President. The members number some 40 astronomers and, as consultant members, about 20 historians. The Canadian members are Rev. Professor Burke-Gaffney of Halifax and the writer, both of whom hope to attend the XII International Congress for the History of Science meeting in Paris August 25-31, 1968.

THE JOURNAL OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

Vol. 59, No. 1

FEBRUARY 1965

Whole No. 472

HISTORY OF SCIENCE

BY A. VIBERT DOUGLAS

Queen's University, Kingston, Ontario

ON the three days preceding the opening of the XII General Assembly of the International Astronomical Union in Hamburg on August 25, 1964, the International Union for the History and Philosophy of Science and the I.A.U. Commission 41 (History of Astronomy) held a joint symposium; over seventy delegates from at least eighteen countries attended.

A most interesting exhibition of astronomical instruments and documents had been assembled by Dr. Bernard Sticker of Hamburg and were displayed in the Museum of Ethnography. Among these was a working model of a Chinese water-wheel clock of A.D. 1088, armillary spheres and quadrants of XV and XVI Centuries, and XIX Century telescopes of historic interest such as Fraunhofer's heliometer (1818) and Argelander's small equatorial refractor with which the observations for the famous *Bonner Durchmusterung* were made between 1852 and 1859. Among the manuscripts were some by Tycho Brahe; in his *De Rebus Astronomicis*, Brahe wrote his Latin with all the flourishes of the pen befitting so picturesque a character. Gauss and Bessel each wrote in a small neat hand, the former in Latin, the latter in German script, with carefully arranged tables and calculations dated 1808-1812. The collection also included Peter Apian's book of 1540, *Astronomicum Caesareum*, and the 1503 Nurnberg constellation map of the northern hemisphere and zodiac.

Of some thirty papers read at the sessions, only a few will be mentioned here. D. J. de Sola Price (Yale) reported on an international catalogue of scientific instruments made before A.D. 1500, including about 100 Islamic astrolabes of XIII and XIV Centuries. D. C. Hellman (New York) showed how observational data on XVI Century comets and novae contributed to the downfall of the old systems of cosmology. H. Dingle

(London) re-examined the Michelson-Morley experiment. A. H. Aaboe (Yale) discussed period relations in Babylonian astronomy. Tibetan astronomy provided the material studied by W. Petri (Munich). The influence on Copernicus of the intellectual atmosphere of Cracow at the close of the XV Century was examined by E. Rybka (Cracow). A. Beer (Cambridge) gave interesting examples of astronomical dating of works of art and the ages of megalithic standing stones—for example Stonehenge probably 1900 B.C. to 2100 B.C. O. Gingerich (Cambridge, Mass.) showed how high speed computers are providing tables of immense importance to historians of astronomy, such as solar and planetary longitudes from 2500 B.C. to A.D. 2000. V. Ronchi (Florence) in his Presidential Address surveyed the history of lens making from 1280 to 1609 when Galileo constructed the first astronomical telescope.

Meetings of Commission 41 were held under the chairmanship of Dr. P. G. Kulikovsky of Moscow during the General Assembly of the I.A.U. Special reference was made to two September celebrations, the one in Florence of the 400th anniversary of the birth of Galileo (1564–1642), and the other in Leningrad of the 125th anniversary of the founding of Pulkova Observatory (1839) and the appointment of F. G. W. Struve (born near Hamburg, son of a Hanoverian farmer) as its first Director.

The 600th anniversary of the founding of the University of Cracow was celebrated earlier in the summer of 1964. As this was the University where Copernicus received his earliest training in mathematics and astronomy, it was fitting that the new Cracow Observatory was officially opened on the occasion of these ceremonies.

Dr. Gingerich outlined to the Commission a computer study of the past history of Encke's comet which suggests that in Babylonian times it might have made several spectacular appearances. Search for references in Babylonian records might prove fruitful.

A report was given of a rich collection of Armenian astronomical material preserved in Erevan which includes VII Century observations of lunar maria, X Century records of eclipses, and amongst the instruments, IX, X, XIV Century astrolabes.

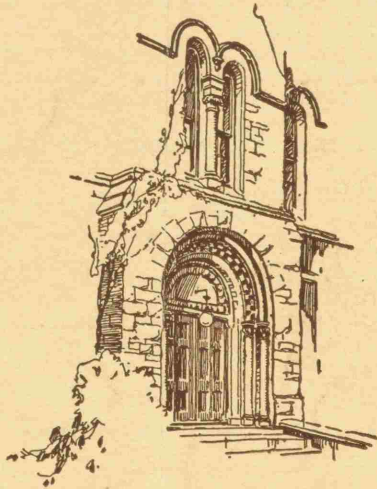
The new Chairman of Commission 41 is Dr. E. Rybka, Director of Cracow Observatory, and Professor of Astronomy in the University; the Vice-Chairman is Dr. B. Sticker of Hamburg. A tribute must be paid to the energetic and enthusiastic work of the retiring Chairman, Dr. P. G. Kulikovsky, throughout his six-year period of office.

A. W. Douglas.

Hetherington.

THE
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VOL. 23 KINGSTON, ONT., DECEMBER, 1949 No. 9



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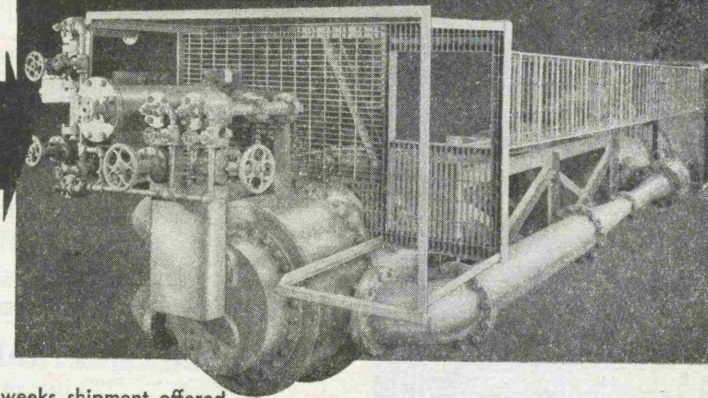
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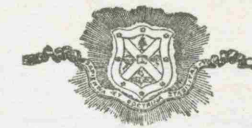
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The QUEEN'S REVIEW



Official Publication of the General Alumni Association
of Queen's University.

VOL. 23

KINGSTON, ONT., DECEMBER, 1949

No. 9

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The QUEEN'S REVIEW is published monthly, October to May inclusive, and in August. Annual subscription is \$3.00. If subscriber is an alumnus of Queen's, REVIEW subscription is included in the annual membership dues of the General Alumni Association.

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Address all communications to the QUEEN'S REVIEW, General Alumni Association, Douglas Library, Queen's University, Kingston.

Authorized Second Class Mail, Post Office Department, Ottawa.

Printed and Bound by The Jackson Press, Kingston, Ontario

HITHER AND YON IN 1949

by A. Vibert Douglas

Part 1—Easter

IN connection with the work of the International Federation of University Women it has been my privilege during 1949 to meet with groups of university women in seventeen cities of nine countries of Europe (if I may count Scotland and Northern Ireland as countries distinct from England). On this continent the range has been from sea to sea from Brown University, Rhode Island, to Vancouver and Victoria, B.C.

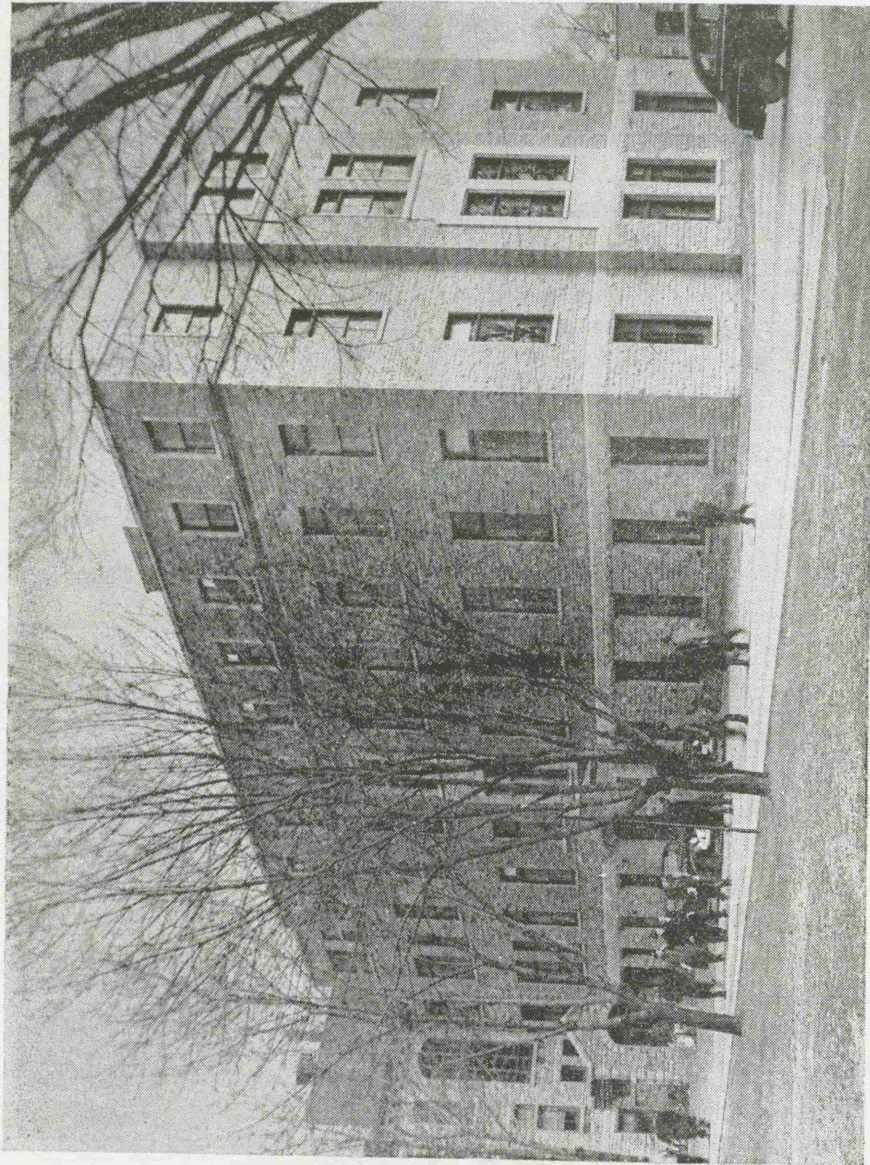
Two weeks before Easter I flew from Montreal to London where the headquarters office of the I.F.U.W. is a necessary port-of-call as often as I can get there. A day later two other officers and I went by boat and train to Paris. We were made welcome at Reid Hall, the American university women's residence which, under the wise and kindly direction of Miss Leet, is a truly international centre. There we were joined by other I.F.U.W. officers, French and Swiss, and the annual spring meeting took place over a long week-end. We held no sessions on Sunday morning and evening. This was our opportunity to meet many French members as well as a distinguished group of French, American and British men and women with a common interest in education and in the widening of international cultural relations. That morning I went to Notre Dame with a Queen's scholar, Audrey Freeman (B.A. '42, M.A. '46). The 9.30 mass was concluding with magnificent organ music and choral responses in which the packed congregation, largely young men, devoutly took part. The sun shone through the stained glass of chancel and apse, and upon the people in the square outside the great west portal, waiting to surge in as the earlier congregation streamed out. The sun shone upon the Seine as it flowed past the Louvre, past the Tuileries gardens with fresh spring leaves and buds and early flowers, past the Quai d'Orsay, and on out of sight under its many lovely stone bridges.

The fourth and final day in Paris included a 6 a.m. visit to Les Halles, the gay and huge vegetable, fruit and flower

market of Paris (roses a dollar a dozen, tulips and daffodils twenty cents a bunch, armloads of magnolia and lilac); a broadcast recording at Unesco House for I.F.U.W.; an hour or two of shopping in the rain; a dinner given by Miss Leet when I met the British Council representative and a Yale professor both of whom know Sartre and gave me their different views on his influence and the probable modifications of his philosophy which some of his disciples may develop along positive dynamic lines.

After another day in London I went to Liverpool and across to Belfast at the invitation of the Irish Federation of University Women to address their annual meeting taking place at Queen's University, Belfast. Commenting on the composition of the Irish Federation whose three main branches are Queen's (Belfast), Trinity College (Dublin) and National University (Dublin), I remarked that they were one geographically, two politically and one in loyalty to the ideals of the I.F.U.W. An Ulster friend replied that two things unite all Ireland—one is this Federation of University Women, the other is international football! In my opinion the marvel and miracle of the former are the greater by far. Long may this co-operation endure!

There were two headings in Belfast newspapers which I had occasion to remember subsequently in Dublin. The recent Ulster elections had resulted in almost dead loss to the labour party which had risked taking no definite stand on partition. So the Ulster trade unions put the question to the direct test, and on Saturday, April 9, headlines announced 200,000 to 700 for continued connection with the United Kingdom. A few days later the headlines in Belfast and small type in Dublin recorded that every Protestant had been voted off a certain Dublin hospital board, even well-known citizens whose public-spirited service was a continuance of a family tradition of three generations. True, the best citizens of Dublin were shocked at this stupid piece of uncalled-for intolerance, but the fact remained and it deepened the sad gulf between North and



GORDON HALL EXTENSION

South. With these headlines in my mind's eye I listened with increasing amazement to a working man, to a dental student and then to His Excellency, the President himself, telling me that the majority of northerners had never had a real chance to express their desire to break the British connection and unite all Ireland, and that Ulster need not fear intolerance or discrimination.

Dublin on Easter Monday—the first day of the Irish Republic—flags and parades and gunfire and crowds; but also a vast apathy and flat refusal of many citizens to participate. Many Irishmen felt that Costello had broken his election pledge to maintain the existing foreign policy; they were tired of De-Valera but at least he knew how to use words skilfully so that Eire could be within the Commonwealth and yet out from under the Crown! There were fireworks by the Liffey that evening and some noisy crowds returning home singing—not Irish patriotic songs—but the latest American radio hits. I had travelled across Ireland that Easter Monday and not one flag was to be seen on any station platform or town or village square from Sligo to the suburbs of Dublin. And what of the Irish Press on that historic day? They carried the news and pictures of the ceremonies, the soldiers and the crowds of the early morning, but the editorials of two leading newspapers were on China and on Dog Racing respectively.

Easter Sunday I had spent in County Sligo by Ballysodare Bay with the Ox mountains to the south, the Donegal mountains to the north, Loch Gill to the east, golden gorse and primroses to intoxicate the eye, and a line of W. B. Yeats to recall one's mind from the grandeur and beauty of nature to the tangled problems of mankind: "The wrong of unshapely things is a wrong too great to be told".

Three days later I was 12,000 feet above the North Atlantic. After sighting Mt. Heckla, we landed at Keflavik and I was able to telephone the president of the Iceland university women at Reykjavick. We crossed the ragged, jagged, angry black rocky tops of the coastal mountains and the great ice fields of

Greenland, and about ten hours later we came to earth at Dorval.

Part 2 — Summer

I left Montreal on June 3, 1949, landed at Liverpool on June 10, and proceeded to Glasgow for the first of five addresses on astronomical topics which branches of the British Federation of University women had requested in Glasgow, Inverness, Aberdeen, Dundee, and Huddersfield. This gave me the opportunity to meet university men and women and other interested citizens and in particular several of the professors in science, mathematics, and philosophy of three of the Scottish universities. Kind friends drove me to see the graves of the clans near the field of Culloden (history 200 years old) and then down into the broad glacial valley of the Nairn to marvel at the many ancient stone burial mounds within sacred stone circles dating perhaps to 2,000 B.C.

In Edinburgh the university women held a meeting on constructive international activities before which I had the pleasure of being received by the Lady Provost, a B.F.U.W. member who had worked in Germany in pre-war and post-war years. She had seen the gradual decline of individual initiative under the early Hitler régime, and the tragic lack of initiative in that country today after years of suppression of voluntary organizations and private philanthropy. In the state of over-nationalization in Great Britain today she views with deep concern a similar trend on the part of citizens to shoulder off upon the government any personal responsibility for local or national welfare.

In another Scottish city I had tea in the home of an economist, a disciple of Keynes. He had filled out a cheque at the Ministry of Supplies during the war for Treasury payment of four million pounds sterling for imported dried eggs! He had but little criticism of the general financial policy of the government. But in Yorkshire I met industrialists outspokenly critical of the government, prophesying its defeat in the next election. Working people in the third-class coach on the London train were equally sure the government would be returned, their arguments being based upon apprecia-

tion of the social security measures rather than on any wider issues.

At the end of June I was in Geneva for a week of meetings of U.N. officials with representatives of over eighty international non-governmental organizations which have been granted consultative status with the Economic and Social Council of the U.N. It was good to see the vast Palais des Nations again humming with constructive activity. The annual I.L.O. conference was also in session and people of many nationalities were thronging halls, corridors and buses of "ONU". Special stress was laid upon four points (1) that the strength of the U.N. is the strength of the support it gets from governments, from non-governmental bodies, and from individuals of good will wherever they are found, (2) that public confidence in U.N. must be built up by stressing the practical achievements of the U.N. and its subsidiary bodies—a challenge to the N.G.O.'s and individuals everywhere, (3) that the voice of the N.G.O.'s, through their accredited consultants at Lake Success, Paris, Geneva or elsewhere is heard and hearkened to and welcomed, particularly in the early formative stages of U.N. policy in committees and commissions, (4) that some progress has been made by an able group of lawyers to formulate the basis of a legal status for international N.G.O.'s

From Geneva I went north to Zurich and on to Basel to assist the local committees who are already well advanced with their plans for the I.F.U.W. Conference of August 6-12, 1950. The Realization of Human Rights will be the central theme and special study will be made of the gaps in our various countries between practice and the ideal as set out in the Declaration.

By leaving Basel very early on July 7, I was able to spend several hours in the old city of Strasbourg in which history has been made over many centuries from Roman times, and is being made today. Its massive cathedral, of 11th and 13th century construction with its open stonework gothic tower, the many 14th century buildings and squares, the encircling waterways tributary to the Rhine, and of course the famous astro-

nomical clock in the south transept of the cathedral, all demanded a more prolonged stay; but that evening I was in the capital of the Duchy of Luxembourg where I received a warm welcome from the secretary of their university women's federation.

Luxembourg is a beautiful and impressive city whose core is built on high land half surrounded by deep gorge-like valleys, the rocky sides of which are honey-combed with defensive chambers, tunnels, and galleries. Many of its ancient walls and towers are preserved, high new bridges cross the gorges, old ramparts on the western approaches to the city are now parks. To north and east are high hills thickly wooded or cleared for agriculture, and the deep valleys up which conqueror after conqueror has come in the course of centuries. The sufferings of these brave independent people through two German invasions in thirty years were beyond anything I had realized. Of a population of 300,000, one in ten was sent to Germany during the recent occupation, and one in ten of these never returned.

The president of the Luxembourg F.U.W., a high school teacher, was sent to teach in a German city which was under frequent allied bombardment, replacing a German teacher who came to her class room. Many nights spent in a cold dank cellar have left her with a chronic rheumatic condition; but in spite of everything, she has recently carried through a piece of scholarly research on linguistic peculiarities and variations throughout the Grand Duchy that has won for her the honour of the 1949 award of the Luxembourg Institute of Arts and Science.

The next ten days were spent in southern Holland where our Canadian I.S.S. was running its second international seminar in Europe. This year the site chosen in collaboration with the Dutch I.S.S. was Castle Bouvigne, Breda in Brabant. Once more I found myself living and talking with students of some fifteen nationalities and trying to think over with them the significance of science throughout the course of history and the social implications of science in the world today. Too high a tribute cannot be

paid to the professors from Toronto and Queen's in particular, who carried the load of instruction throughout the entire five weeks of the seminar. Forty-five Canadian students have returned to their various universities from Atlantic to Pacific with the wider knowledge and vision which the seminar and all its accompanying experiences have given them. The influence of such students, each on his own campus, is all the more important now that the maturer veteran students are passing out of the undergraduate picture. These I.S.S. seminars are wholly constructive and merit continued and increased support.

The annual Council meeting of the I.F.U.W. took me to Denmark at the end of July. There representatives of twenty-two of our thirty-four member nations gathered for a week of meetings and two days of great hospitality from our Danish members. They took us to Kronborg and Fredericksborg, both royal castles now national museums. We went by bus to the site, recently excavated by archaeologists, of a Viking encampment, and back by the cathedral town Roskilde where, in this 13th century brick edifice, ten Danish kings are buried.

The next week was without obligations of any kind, and my niece Elizabeth Douglas (Arts '47) proposed that we go down into Germany taking only a raincoat and a small knapsack each. Thus unencumbered we went to Hamburg. The vast desolation around the harbour area and the eastern part of the city is still a grim spectacle, but much of the rubble has been removed from the heart of the city and the university section, though the dust and grit that swirl everywhere on a windy day are still bewildering and depressing.

Food seems much more abundant and the ration more generous than in Great Britain, but the average German worker cannot afford to buy his full ration, nor to take a meal frequently in even an unpretentious restaurant. For example he would pay 1.80 Deutsch mark for a lunch consisting of a slice of good dark bread, buttered, with a generous piece of ham or cheese on it, a fragment of lettuce and small sector of tomato and a glass of beer. This in dollar equiva-

lent was about 55 cents. A man earning 30 DM a week on which to keep his family could not afford it. Many people in the cities looked shabby, dispirited, and sullen. One sensed a latent hostility which sometimes gave place to straight forward friendliness as one tried to talk with them and understand their situation.

The heart of Kiel is still a depressing desolation, and very little of beautiful Lubeck has yet been rebuilt. The overpopulation problem is a grim one. Thousands of the refugees from the Russian Zone of Germany and from the provinces incorporated into Poland are filling every room that the local authorities can commandeer. Many I.R.O. camps have become available as the D.P.'s have been placed in other countries. These camps are now filling or are filled with homeless Germans. We talked with several and the oft-repeated phrase "alles verloren" rang in our ears. Their dread of Russia, their sense of martyrdom, their tendency to blame others are sad to see. When a retired school teacher of high standing in the community said desparately and reproachfully, "They have thrown us to the jaws of Russia" and one realized that the reference was to Britain and the U.S.A., one was at a loss to find common ground for discussion of Germany's problems.

Not soon shall I forget a visit to a large D.P. camp in the heart of Hamburg where two groups numbering many hundreds are residing. One group are brave courageous men with dependents whom they will not leave alone in Germany or men with a physical infirmity which rendered them ineligible under the various immigration schemes; the other group are men whose spirit and self-reliance are so weakened by the experiences of the last few years that they want to remain under I.R.O. protection, even in Germany. This latter is a very tragic group and I.R.O. officials realize that they must be pushed into accepting some responsibility for themselves.

That evening in Hamburg we joined a large crowd at an open air political meeting of the "Schwartz, weis, rot" extreme right party. Opposed to partition of Germany, opposed to "asiatic

tyranny" and to socialism, they campaigned with martial band music to a rather heavy, undemonstrative and unresponsive crowd. A socialism, which also opposes the partition of their country, appears to meet with majority approval but any government in Germany today seems likely to encounter much critical half-trust, if not distrust.

The German countryside with its many undamaged little towns and hamlets near Lubeck is full of beauty, and life there is much more normal and friendly. I think of Mölln with its half-timbered houses of five centuries ago, its legends and tombstone of Til Eulenspiegel (d. 1350), its busy market square, the miles of well kept forests on the hills adjacent, the old woman picking mushrooms by a forest path like a character straight out of a Grimm fairy tale, the immediate natural friendliness of a family in a small hamlet who cooked up eggs and cocoa to give us lunch and drew a pencilled sketch map of the footpath through the forest by two deep set lakes and out to the Mölln highway. The whole impression is of a different country and a different age from Hamburg and Kiel today.

We returned into friendly, forward-looking Denmark with mixed feelings, regret at leaving a lovely countryside and some people whom we liked, relief at escaping from the cities, the debris, the sight of so many crippled and maimed men (you see more of such in two days in Hamburg than in a month in London), the ill-concealed hostility, and with a sense of bewilderment in the face of so many and so great problems of human suffering and of a national psychology which avoids saying, We brought this on ourselves, but rather asserts resentfully, How are the mighty fallen.

A few days later I was again 12,000 feet above the North Atlantic. This time Iceland was enveloped in 2 a.m. darkness, but early sunrise came over an ocean dotted with icebergs and shone on the red rocks and ice slopes of the southernmost tip of Greenland. From the previous midnight August 19, to the following midnight August 20, two T.C.A. planes transported me from Great

Britain to Vancouver, B.C., in the longest "day" I have yet experienced, a day of thirty-two hours duration.

There followed a week of meetings and great hospitality on the Pacific coast where the Canadian Federation of university women was holding its triennial conference. Then into the air again, and eastward over mountains in the sunset, and prairies and lakes and forests under the bright arc and illusive draperies of the aurora. And so on September 2, 1949, I returned to Kingston and the shadow of Grant Hall tower.

Atomic Energy Machine Developed Under Dr. Zinn

IN WHAT has been described as the most significant peacetime step in atomic energy, the design for a machine intended to "breed" the essential materials for creating that force has now been 90 per cent completed at Argonne Laboratory in Chicago, Illinois, under Dr. Walter H. Zinn, Arts '27. Preliminary construction work already has begun.

If it works in its vital test some eighteen months hence, as its creators are convinced it will do, the engine will vastly increase potential production of atomic energy, for industrial uses as well as for weapons like the bomb.

Dr. Zinn obtained his B.A. and M.A. degrees at Queen's and his Ph.D at Columbia. He taught for several years at Columbia and the College of the City of New York. From 1939 to 1941 he was engaged in the problem of nuclear fission at Columbia. He went to Chicago early in 1942, and was actively in charge of the construction of the first successful atomic pile. On July 1, 1946, Dr. Zinn was appointed director of the Argonne Laboratory. He is a professor of physics at the University of Chicago.

University Purchases Paintings

TWENTY-SIX reproductions of famous European paintings were recently purchased by the University through the George Richardson bequest. Painters represented range from Breughel, Bosch, and Rembrandt to contemporary artists such as Picasso and Dufy.

NEW EXTENSION TO GORDON HALL OFFICIALLY OPENED BY HON. LESLIE M. FROST, PREMIER OF ONTARIO

THE extension to Gordon Hall, which will house the chemistry and chemical engineering laboratories, was officially opened by Hon. Leslie M. Frost, premier of Ontario, on November 24.

In a brief ceremony in the main lecture room, Premier Frost paid tribute to Queen's as a university which is national in aims and objects; to the Kingston district, which he called "part of the cradle of Ontario"; to Dr. Wallace as principal of Queen's and president of the Research Council of Ontario; the late Dr. E. L. Bruce, Dr. W. E. McNeill, vice-principal emeritus; Dr. J. A. McRae; and to his brother, Dr. G. B. Frost, who, with Dr. C. A. Plewes, planned the new wing.

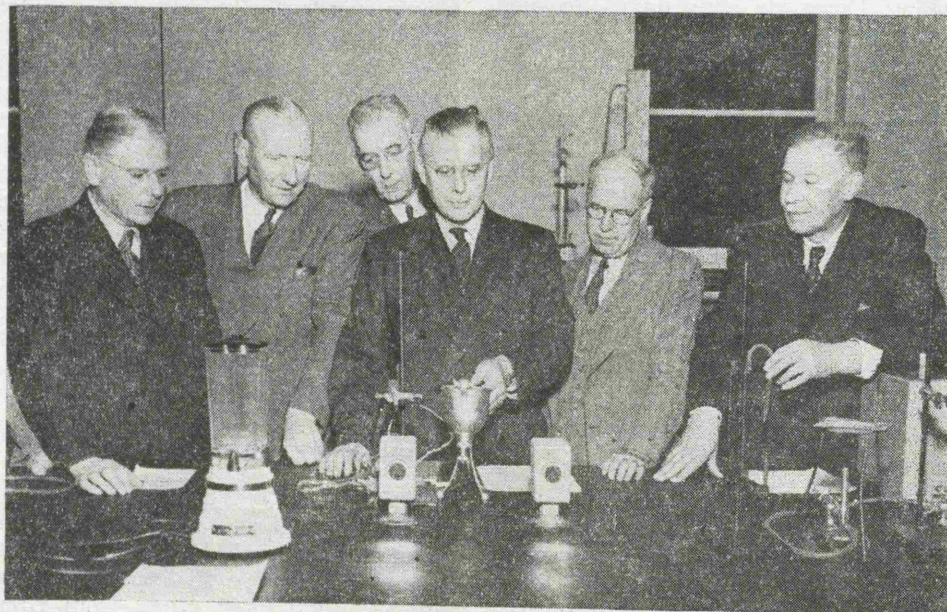
Referring to the great increase in industry in Ontario in the past ten years, the Premier said he was glad to declare the new wing open, knowing that it would be used for great things in this country. The \$250,000 granted to Queen's by the Ontario government for the new wing had been well spent, said Premier Frost.

The Premier was introduced by Principal Wallace, who reviewed briefly the

reasons why the new building had been needed. The Chemistry Department had been the "bottleneck" in the University during the war and early post-war years, he pointed out. There was also the advantage of having the Chemistry and Chemical Engineering Departments under the one roof. The project was made possible by grants from the Ontario government, the federal Department of Veterans' Affairs, and Canadian Industries Limited. He expressed his thanks also to Dr. Frost and Dr. Plewes, to Mr. T. A. McGinnis, chairman of the University's building committee, to Drever and Smith, the architects, and M. Sullivan and Sons, the contractors.

Mr. McGinnis accepted the building on behalf of the Board of Trustees, taking the place of J. M. Farrell, vice-chairman, who was unable to be present.

A brief history of the Department of Chemistry was given by Dr. McRae who joined the department in 1912, the year after the original building was opened. He declared the Department to be "on the threshold of greater things" because of the added accommodation.



AT THE OPENING OF THE NEW CHEMICAL LABORATORIES

Left to right: Dr. G. B. Frost, Hon. George Doucett, Minister of Highways, Mr. T. A. McGinnis, Premier Frost, Vice-Principal Mackintosh, Principal Wallace.

Dr. Plewes, new chairman of the industrial wastes committee of the Research Council of Ontario, stated the objectives of his Department. Chemical engineering research had changed a great deal in the past ten years, he said, and Queens could now follow the new trends.

After the ceremony the visitors were conducted on a tour of the new wing by senior students.

Among those present were Miss Wilhelmina Gordon, associate professor of English, and her brother, Rev. Dr. A. M. Gordon. Gordon Hall was named for their father, the late Principal D. M. Gordon.

STAFF MEMBERS AID ENDOWMENT FUND

MEMBERS of the staff have always played a prominent part in any campaign for funds put on by Queen's. Ever since the days of Principal William Snodgrass and Prof. J. H. MacKerras, the faculty has rallied to the aid of the University in the search for additional endowment.

In the present campaign, more staff members than ever before are taking an active part. Principal Wallace has been indefatigable, travelling to all parts of Canada and the United States, speaking on behalf of the endowment drive and doing some of the actual canvassing. Other members of the administrative staff have also made valuable contributions.

During October and November, members of the teaching staff and others have been drafted for service. The following have visited communities ranging from the Maritimes to Manitoba: R. L. Jeffrey, St. John, New Brunswick; H. P. Gundy, Windsor; Norman Miller, St. Thomas and Simcoe; H. W. Harkness, Renfrew and Smiths Falls; F. A. Knox, Niagara Falls; H. S. Pollock, Walkerton and Owen Sound; S. N. Graham, Kirkland Lake; R. L. Dorrance, Stratford and Goderich; A. S. West, Winnipeg; H. W. Curran, Sherbrooke; J. A. Corry, Kitchener, Galt and Guelph; H. L. Tracy, Port Hope, Cobourg, Colborne, Peterborough, Lindsay; A. L. Clarke, North Bay, Sudbury, and Sault Ste. Marie.

The services of these men were used to supplement the efforts of the local endowment committees. All reported an excellent reception, and Director of Endowment M. C. Tillotson is delighted with the results obtained.

STUDENTS' UNION FACILITIES IN STEADY DEMAND

SOME idea of the extent to which the Students' Memorial Union is used over and above the routine service to students may be gathered from the fact that during the month of October, 3941 additional servings of food were recorded. Sixteen banquets accounted for 2633; the Theological Alumni Conference had eight meals for a total of 320; two groups of high school students, 153; the Governor General's opening luncheon, 235; Governor General's tea, 600.

Over Reunion weekend, alumni representing thirty classes used the facilities of the building. One hundred and sixteen meetings were held in the two student committee rooms. The bedrooms were occupied for a total of forty-four nights.

The new Faculty Club, in the north wing of the Union, has also been a popular gathering place. During October 818 luncheons were served there, as well as nine dinner parties, and eight teas.

Memorial to F/L J. L. MacLeod Dedicated in Morgan Chapel

A MEMORIAL to Flight Lieutenant John Leslie MacLeod, D.F.C., Com. '40, in the form of two falls for the pulpit and lectern of Morgan Memorial Chapel were dedicated in a brief service in the Chapel on November 26. The service was conducted by Principal Kent and Wing Commander R. M. Frayne, principal Protestant chaplain for the R.C.A.F., and Rev. A. M. Laverty, University chaplain, took part.

Flight Lieutenant MacLeod was reported missing on a photographic mission in British Columbia on October 18, 1947. A member of the R.C.A.F. during World War II he was awarded the Distinguished Flying Cross.

CHEMISTRY AT QUEEN'S

By Dr. W. E. McNeill, Vice-Principal Emeritus

SCIENCE, at first under the name of Natural Philosophy, was taught at Queen's from its opening in 1842. The first Professor was James Williamson, a graduate of Edinburgh. Chemistry was not included till 1854, when the founding of a Faculty of Medicine made it necessary. It began as a lecture subject on "The non-metallic elements and their compounds."

In 1858 Dr. George Lawson, a very distinguished scientist of Edinburgh, was made Professor of Chemistry and Natural History. His salary was \$1700 while other full-time professors got only \$1500. He energetically earned the difference. At the end of the first session he had a medallist in Chemistry. No student at Queen's had ever before been given a medal. Moreover, this medal was of "aluminum", a newly-developed rare and precious metal costing \$17 an ounce.

In the next session, 1859-1860, in the "New Hall" put up mainly for medicine, today called the Old Medical, Chemistry became the most ambitious subject in the University. Dr. Lawson's syllabus in four finely-printed pages used more space than all the other subjects in Arts, Theology, and Medicine together. It sounds very modern: "The class for Practical Chemistry will be conducted in the Laboratory under the personal superintendence of the Professor. . . All necessary apparatus, materials for examination, and re-agents are supplied free of expense. The student performs every experiment. . . Each pupil receives his instruction independently, and not as a member of a class". There was Agricultural Chemistry and Medical Chemistry, and for those who wanted them, such vocational subjects as Brewing, Distillation, and Tanning.

Chemistry has been well served at Queen's. In its main line of development, its heads have been Williamson (1842), Lawson (1858), Bell (1863), Dupuis (1868), W. L. Goodwin (1883), Neish (1919), and McRae (1941). Today, besides its head, it has two other full professors—Frost (Physical) and Munro (Colloid), two associate professors—

Dorrance (Analytical) and Smith (Physical), and Assistant Professor Moir (Organic). Fellows, demonstrators, assistants and curators bring the staff to a total of 34.

Two divisions have grown into independent departments.

Biochemistry began humbly with only laboratory recognition, but in 1914 A. P. Lothrop was appointed with the title of Assistant Professor of Biological Chemistry. He was succeeded by J. F. Logan in 1925, and in 1937, when the Craine Building was ready, Biochemistry moved into it as a completely independent subject with Associate Professor Logan and R. G. Sinclair as full professor and department head.

Chemical engineering is the other division to become independent. It made its start with Lawson in 1859; it was fostered by Dupuis and W. L. Goodwin; it grew in importance as the School of Mining, founded in 1893, added other engineering courses. In 1900 John Waddell was appointed to Industrial Chemistry; in 1908 L. F. Goodwin was made Assistant Professor of Chemistry in charge of Chemical Engineering; in 1925 he was made its head as a separate department. For a year after his death in 1944, George A. Revelle was acting head. In 1945 A. C. Plewes left industry to head the department. He has with him Assistant Professor Marshall.

Chemistry serves Arts, Applied Science, and Medicine; Commerce, Nursing, Physical and Health Education. It has the largest teaching group in the University. Its budget for salaries and supplies calls for \$86,000 a year.

For the first twelve years Queen's lived in rented properties. Then in 1853 it bought Summerhill, now the Principal's house. For five years all teaching was done there—Arts, Theology, and Medicine. There in 1854 Chemistry began in narrow space. There Dr. Lawson went in 1858. But better days were at hand. Next year, the "New Hall", now Old Medical, the first building Queen's erected, was ready. It was mainly for

Medicine, but it admitted Chemistry, gave it laboratories, and kept it till 1891.

Then Chemistry moved to Carruthers Hall, which had been built for its expanding needs and for some minor uses. For the first time it had almost a whole building to itself and was fairly comfortable there for the next twenty years. By that time Fleming Hall, which contained Mechanical, Electrical, and Civil Engineering, was overcrowded. It was decided to move Civil to Carruthers and to build a new and better home exclusively for Chemistry.

So Gordon Hall came into being. Forty years ago it was planned with space to spare. But in time it became too small for the increasing numbers and activities. As a temporary remedy, Chemical Engineering was squeezed into Ontario Hall. It is now happily back to share with Chemistry the fine accommodation of the new Gordon Hall laboratories.

The Craine Building, which houses Biochemistry, was made possible in 1937 by a gift of \$400,000 from the late Dr. Agnes Craine, a graduate of Queen's in Medicine. Of this amount, \$125,000 was used for the building and the rest for endowment.

The corner stone of Gordon Hall has this inscription:

The corner stone of this building, erected with money granted by the

Province of Ontario, was laid by Sir James Whitney, Prime Minister, 27 April, A.D. 1910.

Sir James named the building in honour of Principal Gordon. It was officially opened November 11, 1911; the New Laboratories, November 24, 1949.

Gordon Hall in a time of low prices was built for \$120,000, which was provided by the Province of Ontario in six annual instalments. It has since been expensively changed. The attic was finished. The whole building was fire-proofed and improved in 1934 as part of the Unemployment Relief Plan, when the University paid for material and the City of Kingston and the Province of Ontario divided the labour costs. Its present value as estimated for insurance purposes is \$300,000 with a further \$100,000 for contents.

The new Laboratories had to be built in a time of high prices. The total cost, basement to roof, is about \$381,000. Of this the Dominion Department of Veterans Affairs paid \$24,482, the cost of temporary adaptations to the basement for the teaching of ex-service students. Canadian Industries Limited besides other generous aids to the University gave \$35,000 to the Chemistry building fund. The Province of Ontario in 1947 made construction possible by a capital grant of \$250,000, which before it was used, earned \$6,304 in interest. Thus approximately \$100,000 must yet be found.

QUEEN'S ENDOWMENT FUND — PROGRESS REPORT

January 1—November 30, 1949

Objective	Objectives		
\$175,000 per annum	\$1,000,000 for buildings		
	\$2,000,000 for Endowment		
	Other Individuals		
	and		
	Organizations		
			Total
Pledged	\$349,965.90	\$ 1,120,671.62	\$ 1,470,637.52
Paid	144,724.75	822,286.77	967,011.52
Balance payable	\$205,241.15	\$298,384.85	\$503,626.00

HAROLD V. KINSEY, Sc. '36 DEVELOPS NEW ALLOY

DEVELOPED by Harold V. Kinsey, Sc. '36, and his staff at the Bureau of Mines laboratories in Ottawa, a new super-alloy has been patented for use in jet engines. The alloy is the result of five years' research and is named in honour of Mr. Kinsey.

Kinsalloy possesses the high quality and strength demanded for application in jet engines and because it contains a minimum of elements that might, at some future time, become strategic, its industrial value is greatly enhanced. Additionally, it is 10 per cent lighter than other alloys of its type, no small consideration in construction of rapidly moving parts of an aircraft engine.

According to *Domar*, house organ of the Bureau of Mines, "With the chronic dissatisfaction of scientists, the same team is now engaged on an intensive study of this new family of alloys to discover how they can be still further improved. If Canadian built jet engines don't rank second to none it will not be the fault of Bureau engineers."

KEEN INTEREST SHOWN IN CONVERSATIONAL FRENCH

AN amazing response to evening classes at Queen's in Conversational French is reported by Harry Hutton, Director of Extension. It had been hoped that there would be enough registrations to organize one group. There are now three, one of them composed entirely of employees of the Aluminum Company. Size of a class has to be limited and the desirable number is not more than a dozen. To accommodate as many people as possible the Queen's classes run at from fifteen to twenty students. The instructors, Madam Jeanne McConnell and M. Jean Ogier, both of the Department of French, felt that no one who applied by the date of the first class on October 20 should be turned away.

Only one registration was made by a regular student. The other members of the classes are for the most part business people, civil servants, and housewives. The demand is obviously great and the

Department of Extension wonders what would have happened if Conversational French had been widely advertised.

SCIENCE '49 PRESENTS CHEQUE TO STUDENTS' UNION

SO successful was the reunion of the Class of Science '49, held on the week-end of the Queen's-Varsity game on November 12, that it was decided to plan for a similar gathering next fall.

Highlights of the week-end programme included the Science Formal, the highly satisfactory win over Varsity, dinner in the Students' Union, and the football dances in Grant Hall and the Gymnasium.

President Eric Jorgensen was chairman at the dinner. Guests included Principal Wallace, Dean Ellis, Dr. J. V. Hughes, Prof. R. L. Dorrance, and J. E. Wright. The toast to Queen's was proposed by Dick Steenberg and response was made by Professor Dorrance. A cheque for \$750 to purchase a piano for the Union was accepted by Dean Ellis, on behalf of the Union Council.

Among those present were Mr. and Mrs. E. C. Jorgensen, D. H. Cliff, Mr. and Mrs. C. F. Smith, E. J. Brooker, R. A. Campbell, Mr. and Mrs. R. Higgs, V. A. McCullough, D. Brown, L. D. Rooney, R. J. Kjarsgaard, F. J. Johnston, W. A. Trotter, Mr. and Mrs. C. Crawford, D. Briden, J. MacDougall, Mr. and Mrs. J. Hewson, Mr. and Mrs. R. Gourlay, R. Palmer, D. J. Barlow, Mr. and Mrs. R. Davis, R. G. Dickin, Mr. and Mrs. G. Barry, W. W. Hewitson, L. S. Murray, J. E. Cullen, R. W. Spence, Mr. and Mrs. G. E. Woodside, R. B. Walker, E. D. Hayes, Morris S. McEwen, H. C. Armstrong, C. J. Hamilton, B. C. Stinson, E. L. Duret, J. Hooper, J. Peckett, E. A. Wells, G. N. Hutchinson, Mr. and Mrs. C. W. Hopkins, Mr. and Mrs. R. Steenberg, T. Podolsky, K. M. Carey, R. K. Lalor, R. Dyble, M. S. Campbell, D. M. Whitton, F. W. New, L. McWhinnie, A. E. Argue, C. J. Brodeur, C. W. Smith, J. N. Robbins, Mr. and Mrs. B. Davidson, Mr. and Mrs. C. L. Lewis, Mr. and Mrs. J. F. Farrell, P. N. Bird, A. M. Goodwin, N. J. Moffat, E. R. Davis, A. J. Graham, Mr. and Mrs. J. Bates, F. I. Morrisey, W. Jamieson, G. Mercier, W. J. Lossee, H. D. Carlson.

Athletics

WESTERN regained possession of the Yates Trophy, emblematic of the Intercollegiate football championship, by defeating McGill 12-9 in the play-off at Varsity Stadium on November 19. McGill had completed the schedule in first place, defeating Western the week previously.

By the narrowest of margins Queen's failed to make the play-off. Many observers were of the opinion that the Tricolour were the best in the league at the close of the season. For that matter, the other supporters might be excused for adopting the same attitude, so evenly matched were the teams.

Western, the new champions, lost to McGill and Varsity and were tied by Queen's. McGill lost to Western and Queen's but defeated Varsity twice. Queen's had victories over Varsity and McGill plus the aforementioned tie. Varsity, last year's champions and with a stronger team this fall, had wins over Western and Queen's and finished in the cellar. Such goings-on provided the fans with the most exciting season in years and all games attracted record crowds.

Queen's finished the season strongly,



DICK HARRISON
Voted Most Valuable Player

after a disappointing start, by registering two wins and a tie in their last three appearances. The Tricolour had lost 22-21 to Varsity, 16-11 to Western, and 17-1 to McGill before they hit their winning ways. The week following the loss to McGill, Queen's turned the tables on the Redmen by shutting them out 15-0 at the Richardson Stadium.

That one victory was all that was needed to revive the hopes of the Tricolour fans. At that stage of the campaign it appeared as if all teams might end in a deadlock for first place. These calculations were upset the next week when Queen's could do no better than an 18-18 tie with Western.

What made this outcome all the harder to bear was the fact that Queen's appeared to be a beaten team three minutes before the end, Western having the ball in scoring position on the Tricolour's 28-yard line. But Western elected to try a forward and lost possession. The Tricolour then rolled up the field and with less than a minute to go were fourteen yards from the Western goal line. All they had to do was kick to the deadline for a single, but before they could do this they lost the ball on a fumble and with it went their title aspirations.

In this game Queen's took a two-point lead in the first quarter on a safety touch but Western retaliated with a converted touchdown. The Tricolour again went ahead when Logan recovered a blocked kick and fell on it for a major score. A bad snap resulted in a loose ball a few plays later and Penner picked it up and scampered for another touchdown which Lenard converted to make it 14-6 for Queen's. A rouge added to the Tricolour margin, but a fumble in the dying moments of the half put the Mustangs on the Queen's 10 and on the last play Western went over for a touch which was converted to make the score 15-12.

There was no scoring in the third quarter although Queen's once had the ball within five yards of the Western goal line and were in scoring position on several other occasions. In the final quar-

ter Lenard kicked a field goal from 38 yards out, but Western tied it all up shortly afterwards on a converted touch-down. Although both teams had opportunities to break the deadlock the game ended in a tie.

In the final game of the regular schedule, Varsity visited the Richardson Stadium. Queen's were now out of the running but the Blue and White had a chance to qualify for the play-offs. The Tricolour, however, won this one 9-0 and such was their superiority that the score might have been three times as decisive.

The Gaels struck early in the game when Tip Logan grabbed a long sleeper pass from Al Lenard and ran half the length of the field for a touchdown which was converted. That was all that was needed, it developed, for Varsity was out-classed for most of the remainder of the game. Queen's made a single and a safety touch to account for the rest of their score and registered another touchdown which was called back. Several times they worked the ball down to within 15 yards of the Blues' goal line but failed to capitalize.

Queen's placed two men on the all-star team picked by the Canadian Press: "Tip" Logan received all but one vote for an outside wing position, to be the nearest to an unanimous selection, while Pete Salari was chosen for one of the inside wing posts. On the Canadian University Press selections, former Captain Al Lenard was chosen along with Logan and Salari for the first team, while Dick Harrison, Hal McCarney, Hank Simola, Jim Charters, and Jack Sisson were named to the second team. Dick Harrison was chosen as the most valuable player on the Tricolour on the vote of the team members. He succeeds Pete Salari who won the honour in 1948.

To Head Coach Frank Tindall and Assistant Andy Mullan must go a great deal of credit for the fine showing of the Queen's team. They developed a strong and versatile contender that played pleasing and spectacular football all fall. At the start of the season the Queen's line appeared to be weak but by mid-season it was able to hold its own and more with the strongest. Team spirit was high and

with only four members scheduled to graduate there would appear to be good grounds for optimism for next year's chances despite the fact that McGill and Western are expected to be greatly strengthened. For Queen's those who have played their last game are Al Lenard, Dave Bryane, John Faulkner, and Doug Woolley, although there is a possibility that the latter may return for an additional degree.

The final football standings exclusive of the play-off, were as follows:

	W	L	T	F	A	P
McGill	4	2	0	81	61	8
Western	3	2	1	69	74	7
Queen's	2	3	1	75	73	5
Varsity	2	4	0	58	75	4

University Property Valued At More than \$10,000,000

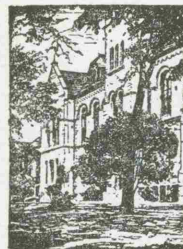
A RECENT appraisal for insurance purposes has established the value of University property within Kingston at more than \$10,000,000.

All buildings are insured at replacement cost. That is to say, if a fire should destroy any one of the buildings, settlement would be based on the cost of repairing, replacing, or rebuilding with material of like kind and quality without deduction for depreciation.

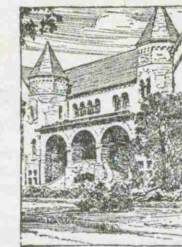
At present University property is insured for more than \$9,000,000.

"Wallace of Queen's" Meets Enthusiastic Reception

DR. W. E. McNEILL'S excellent article on Principal Wallace, entitled "Wallace of Queen's", which appeared in the August *Review* and which has since been published as a brochure, has met with an enthusiastic reception. A typical comment is the following excerpt from an editorial in the *Oshawa Times-Gazette*: "It is a tribute well deserved, although the nature of its subject is such that he will probably disclaim many of the fine things said of him by his biographer and friend."



Student Activities



Student Health Referendum Postponed

THE vote on the proposed new health plans for students has been postponed until next term in order that expert actuarial advice regarding the student-operated system may be obtained. Dr. L. W. Brockington, Rector, and Dr. Wallace Troup, a member of the Board of Trustees, have arranged for one of the most outstanding actuaries on the North American continent to make a report on the plan which the students propose to administer themselves. Also up for consideration are plans submitted by an insurance company and by a medical health service.

Seek Drum Majorette

Popular Marge MacGregor of Pembroke, who in two years as drum majorette of the brass band has become an institution at Queen's, will graduate next spring, and a campus-wide search has been instituted to find a suitable successor. Among the qualifications sought are pulchritude, personality, and poise. From a field of ten prospects have emerged four promising candidates and it is expected that a selection will be made in the near future.

Science Formal Held

For the second year in a row, the Science Formal was advanced to the first term and proved to be as popular as ever. More than 500 couples were present on November 11, and many others who sought tickets had to be disappointed. The Gymnasium was transformed into Valhalla and featured a magnificent fountain and other displays. The souvenirs were pictures of each couple taken by professional photographers. Music was provided by Boyd Valteau and his orchestra, of Toronto.

Present "Glass Menagerie"

The main fall presentation of the Drama Guild was Tennessee Williams' "The Glass Menagerie" which was put on in Convocation Hall November 17, 18 and 19, before large audiences. The principals were Art Todd, Arts '50, Kingston; Joan Walker, Arts '53, Kingston; Florence Fraser, Arts '50, Milhaven, and Murray MacKay, Quebec City.

Here and There

Dr. A. S. McCormick, honorary president of the Queen's alumni at Akron, Ohio, has written a march for the brass band called "The Queen's Kilties". . . . The annual convention of the Canadian Federation of Newman Clubs was held at Queen's on November 3, 4 and 5. . . . One hundred and seventy-nine freshettes pledged loyalty to Levana at the annual candlelighting ceremony on November 3. . . . The next session of the Queen's Student Congress is scheduled for January 17. . . . The Alma Mater Society executive has formed a committee to explore the need for a full-time administrative officer for the A.M.S. . . . Pete Braden, Arts '53, Hamilton, has been appointed convener for the showing of films lent to the student body by the Rector. . . . During the week of November 14-19 the co-eds paid the expenses of their dates. Highlights included the band benefit dance, the "Susie Q" in Grant Hall, and a dance in Ban Righ. . . . C. E. Alkerton Sc. '50, Prescott, has been awarded the R.C.E. Memorial Scholarship given annually to a Science member of the C.O.T.C. who has completed his third year. . . . Dr. Jessie McPherson, Dean of Women at Victoria College, spoke at the meeting of the Levana Society on November 24 on "Emotional Adjustment to University Life".

At the Branches

Central New York

UNDER the leadership of Dr. J. E. McAskill, Med. '14, Watertown, New York, president of the General Alumni Association, a reorganization meeting was held at the Hotel Utica, Utica, on November 19. Despite stormy weather, twenty graduates were present and plans were made for future meetings.

Dr. A. J. Flood, Med. '12, Watertown, was elected president and Dr. S. W. McIlmoyl, Arts '26, Med. '28, Troy, was appointed secretary. Dr. T. J. Goodfellow, Med. '09, Saratoga Springs, was named as chairman of the endowment committee. During the evening the alumni canvass was given a start with a telephoned pledge for \$500 from one of the graduates in the area.

Guest speaker was Rev. A. M. Laverty, University chaplain, who spoke on recent developments at the University. He described interesting incidents arising out of his daily contacts with the student body, with particular emphasis on the loyalty that Queen's inspires. He was thanked on behalf of the meeting by Dr. Goodfellow.

Dr. A. J. Flood proposed the toast to the University. H. J. Hamilton, secretary-treasurer of the General Alumni Association, spoke briefly in reply.

Dr. McAskill read a letter from Principal Wallace in which best wishes were expressed for the future of the Central New York Branch. The chairman called on those present for personal reminiscences of their experiences as a student and a graduate and this part of the programme proved to be highly popular. Particularly well received was the oldest member present, Dr. H. M. Buchanan, Med. '89.

Quebec City

AT the annual meeting held at the Victoria Curling Club on October 26, J. Grant Macdonald, Arts '25, was elected president for the ensuing year. Other officers appointed were as follows: vice-president, C. G. O'Neill, Com. '33; secretary, J. M. A. Bleau, Sc. '32; treasurer,

C. B. Bate, Sc. '15; committee—M. R. C. Amaron, Arts '40, G. E. Shipman, Sc. '24.

The programme included a buffet dinner, short speeches, dancing and singing.

Saguenay

APPROXIMATELY fifty graduates and friends attended the annual dinner meeting of the Saguenay branch on October 14. The guest speaker was Dr. G. B. Frost of the Chemistry Department at Queen's.

Taking as his subject, "Gardens Around Palaces", Dr. Frost pointed out the necessity for understanding and friendship between neighbours as a basis for a national and international development of understanding and good will among people of widely varied circumstances and interests. He said that such a policy was a possible solution to much of the unrest in the world today.

Dr. Frost was introduced by Dr. W. K. Gummer, Arts '37, and he was thanked for his excellent address by A. C. Turney, Sc. '39. During his two-day visit to Arvida, Dr. Frost was taken by several graduates on a tour of the district, including the Arvida Works of the Aluminum Company, Shipshaw, Port Alfred, and Lake St. John.

Branch Officers, 1949 - 50



A. S. E. DUNCAN
President, Montreal



W. H. DIXON
Secretary, Niagara Falls

Northwestern Quebec

AFTER the annual dinner meeting held at the Noranda Hotel on November 19, the branch directors chose the following officers for the ensuing year: president, D. M. MacLean, Sc. '32; vice-president, J. C. Houston, Sc. '30; secretary, Mrs. W. R. Sutton (Marion Curtis), Arts '32; treasurer, R. R. Turner, Sc. '41.

Sixty members and their wives were present for the meeting. Retiring president K. D. Thomson, Sc. '42, presided and extended a welcome to all.

A toast to the University was proposed by Arnold Sobering, Sc. '43, and E. J. Miron, Sc. '42, led the Queen's yells. The minutes of the previous meeting were read and adopted on motion of W. W. Beaton, Sc. '25, and Llewelyn Chamberlin, Sc. '23. The report of the treasurer, W. A. Hoffman, Sc. '34, showed a balance of approximately \$50.

Mr. Thomas gave a resume of the year's activities which included the inaugural meeting, the Malartic dinner dance, and the endowment campaign. As spokesman for the nominating committee, Mr. Thomson then presented the names of twelve alumni as directors: Fernando De Luca, Sc. '44, W. A. Huba-check, Sc. '45, J. G. Berry, Sc. '43, W. J. Marshall, Sc. '37, R. R. Turner, Sc. '41, Mrs. W. R. Sutton (Marion Curtis), Arts '32, R. L. Coleman, Sc. '42, D. M. MacLean, Sc. '32, J. B. Anderson, Sc. '36, R. G. McKelvey, Sc. '34, R. G. Hoiles, Arts '40, and J. C. Houston, Sc. '30. Nominations were closed on motion of W. W. Beaton, Sc. '26, and W. A. Hoffman, Sc. '34.

W. R. Sutton moved a vote of thanks to the outgoing executive and this was seconded by A. D. Carmichael, Sc. '39.

After the business session, the remainder of the evening was spent in dancing.

Kingston Alumnae

AN interesting talk on "Public Speaking" was given by Prof. Arnold Edinborough of the English Department at the meeting held in Ban Righ Hall on November 1. Professor Edinborough outlined effective methods for making speeches. He was thanked for his ex-

cellent address by Miss May Chown, Arts '11.

Mrs. R. O. Earl presented a report on the Convocation Tea held after Spring Convocation. Mrs. Earl and the members of her committee were heartily thanked for their efforts in making the tea a success.

At the close of the meeting, refreshments were served by the social convener, Miss Dorothy Taylor, Arts '41, and her assistants.

Toronto Alumnae

A HIGHLY successful supper meeting was held on October 28 with fifty-eight in attendance. The guests were arranged in groups according to their graduation year, and were seated at tables decorated with the University colours.

At the head table, centred with a huge tricoloured Q donated by a member, were the president, Miss Martha Murphy, Arts '24, the past president, Mrs. Norman McLeod (Mary Johnston), Arts '26, the guest speaker and senior members of the branch, including Mrs. G. S. Young (Eva Greenhill), Arts '99, Mrs. Frank Yeigh (Anne Laird), Arts '01, Miss Dorothy Wilson, Arts '13, Mrs. W. A. McIlroy (Thora Tracy), Arts '01, Mrs. J. F. Macdonald, and Mrs. D. M. Solandt (Edith Young), Arts '05. During the dinner, college songs were sung, led by Mrs. M. A. Gill (Grace Miller), Arts '47, accompanied at the piano by Miss Kay Elliott, Arts '26.

Mrs. G. S. Young told of her visit to Kingston over the Reunion weekend. Miss Dora Stock, Arts '14, another Reunion visitor, described the new Baker Residence, with particular reference to its bright and cheerful aspect.

Mrs. Marsh Jeanneret (Bea Mellan), Arts '37, introduced the guest speaker, Mrs. Lewis, who was the Canadian representative at the Y.W.C.A. executive meeting in Switzerland in 1948. Mrs. Lewis described in a clear and forceful manner her visit to the Pestalozzi Children's Village at Trogen, Switzerland, which has been taken over by U.N.E.-S.C.O. and is really a two-fold project in the care of war orphans and in education for world citizenship. The basic

concern of the village is to mold happy and useful citizens so that on their return to their own country they may play a part in rebuilding it.

Miss Bessie Billings, Arts '26, expressed the appreciation to the speaker. M.I.A.

Middle Atlantic

TWENTY-NINE attended the dinner meeting held November 12 at the Casa Conti restaurant in Glenside, Pennsylvania. Guest speaker was J. Alex Edmison, Arts '27, executive secretary of the John Howard Society in Toronto.

Introduced by the president, Dr. John Lansbury, Med. '26, Mr. Edmison spoke on "Crime and Criminals." He outlined the background of persons who developed into criminals and the shortcomings of the law and inadequate prison methods.

Mr. Edmison pointed out how there have been periodic investigations and voluminous reports of the conditions in prisons with recommendations for improvements and reform. Actual progress in reform, however, has been slow. In some federal institutions, particularly in England, progress has been made by keeping first offenders in separate prisons and by giving them instruction in a trade during their term of imprisonment so that upon release they may have an op-



J. A. EDMISON

portunity to earn a living by performing useful work. Records indicate that approximately 70 per cent of these released prisoners become satisfactorily rehabilitated as against minor percentages under former methods.

At the short business session which followed, Dr. G. E. Flanagan, Arts '17, Med. '23, outlined some of the plans for future development at Queen's and the need for assistance from graduates in financing present and future requirements of the University. He also told of the formation of a new organization called the Friends of Queen's, Incorporated, through which donations to the University may be made by alumni in the United States and be deductible for income tax purposes. Prof. C. W. Simmons, Sc. '20, of Lehigh University, supplemented Dr. Flanagan's remarks with comments of experiences during recent fund-raising activities at Lehigh.

Harris S. Campbell, Sc. '28, reported on the distribution of the members of the Middle Atlantic branch, 30 being in the immediate Philadelphia area, 34 in Delaware, Maryland and Washington, 11 in the area Philadelphia to Harrisburg, 7 in Virginia and 19 in Western Pennsylvania.

Dr. A. B. Dixon, Med. '39, proposed that next year the dinner be held in Baltimore in order to provide an opportunity for those members in the Baltimore-Washington area to take a more active part in the Association. This suggestion seemed to meet with general approval.

Before adjourning the meeting, Dr. Lansbury welcomed the members who were present on this occasion for the first time: Miss Muriel Schiell, Arts '48; Rev. C. A. Park, Arts '42, and Mrs. Park; Dr. R. K. Smiley, Med. '47, and Dr. L. B. Cronk, Med. '47, and Mrs. Cronk.

Toronto

BILLED as "the Greatest Queen's Night in our History," the annual Dinner and Dance held in the Royal York Hotel Ballroom lived up to advance notice. There were 225 alumni and friends at the dinner and 142 additional at the dance.

Guest speaker for the occasion was Dr. L. W. Brockington, Rector of

Queen's. It is hoped to publish his address as an article in an early issue of the *Review*.

Seated at the head table were Dr. and Mrs. J. A. Hannah, Mr. and Mrs. M. C. Tillotson, Col. and Mrs. E. A. Baker, Mr. and Mrs. C. A. Campbell, Mr. and Mrs. J. C. Macfarlane, Mr. and Mrs. J. H. Stewart, Mr. and Mrs. J. M. Macdonnell, Miss Martha Murphy, Dr. Brockington, Mr. and Mrs. A. J. Strain, Dr. W. A. Mackintosh, Mr. D. I. McLeod, Mr. and Mrs. J. A. Edmison.

The committee in charge of this highly successful affair included J. S. Dewar, Sc. '41 (chairman), Miss Martha Murphy, Arts '24, Miss Marion Ross, Arts '26, N. E. Butler, Com. '30, C. E. McRoberts, Sc. '33, A. T. Clarke, Ernest Collyer, Sc. '23, J. D. Fahey, Sc. '48, J. M. Munro, Arts '38, J. G. Smith, Sc. '44.

Ottawa

UNDER the auspices of the Ottawa branch, the Queen's Drama Guild presented Tennessee Williams' "The Glass Menagerie" before a large audience in the Glebe Collegiate Auditorium on November 26. The play was directed by Dr. William Angus, head of the University's Drama Department.

Peterborough

TWO senior graduates were named as honorary presidents of the branch for the ensuing year at the annual dinner meeting held at the Kawartha Golf and Country Club on November 17: Rev. D. L. Gordon, Arts '97, and Rev. William McDonald, Arts '98, Theol. '01.

Presented by Dr. R. A. Kelly, the nominating committee's report was approved as follows: past president, Miss Helen McGregor, Arts '30; president, Rev. Dr. D. B. Gordon, Arts '28; first vice-president, Dr. A. G. Howson, Med. '15; second vice-president, T. J. Allen, Arts '36; secretary, Miss Ethel Patterson, Arts '49; treasurer, C. M. Krug, Arts '37; executive committee—Arts—Levana, Mrs. C. Gonnert (Alda Crewson), Arts '25; Arts, F. B. Smitheram, Arts '40; Science, D. A. Lamont, Sc. '45; Medicine, Dr. T. E. Currier, Med. '40.

The dinner was attended by sixty graduates and their friends. Miss Helen

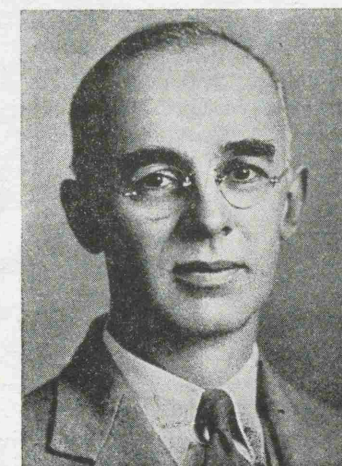
McGregor served as chairman, and introduced the guest speaker, Dr. H. L. Tracy, head of the Classics Department at Queen's.

Society's poor relations are its painters, writers, and musicians, Dr. Tracy told the gathering. Like the shabby genteel, they are an embarrassment, and society still does not know how to deal with them. Yet Dr. Tracy felt that there was a bright possibility that the commercial democracy of today could and would cope with its artists to provide them not only the means of existence but the recognition and dignity which is their due.

The thanks of the meeting were expressed to Dr. Tracy by Miss Verna Burgess, Arts '36.

The toast to Queen's was proposed by Dr. D. B. Gordon, and responded to by H. J. Hamilton, secretary-treasurer of the General Alumni Association. Greetings from the University of Toronto alumni were brought by Ross Dobbin and Miss Margaret McCullough; from McMaster University by A. J. Arnott. O. J. Frisken, Arts '27, Sc. '29, presented the financial report, which showed a small balance on hand.

Miss Jean Lancaster, Arts '34, reported on the results of the endowment campaign in the Peterborough district, where more than \$5,000 was pledged. In the City of Peterborough 58.6 per cent of the alumni have contributed.



DR. H. L. TRACY

After the dinner several films were shown, including a colour movie of the McGill-at-Queen's football game this fall.

Belleville

AN account of recent developments at Queens' was given by Vice-President W. A. Mackintosh at the first annual banquet held at the Quinte Hotel on November 4.

Replying to the toast to Queen's, proposed by A. S. Robb, Sc. '36, Dr. Mackintosh said that the University, while old in years, is not old in spirit. He described the expansion that had taken place in many departments and told of some of the plans for the future. He said that although there was no intention of limiting the registration, a small university had many advantages.

The programme included a toast to Canada, proposed by H. R. Park, Arts '36. A roll call, by years, showed that the period 1910-15 was the best represented. A register was passed for all to sign, as an attendance record.

A report on the years activities and some of the plans for the future were given by A. S. Robb, Sc. '36, president. These included the endowment campaign and the establishment of a trust fund to assist students to attend Queen's.

W. L. McDougall, Com. '28, was appointed chairman of endowment and of the trust fund committee. The report of the nominating committee was presented by R. H. Macklem, Arts '33, as follows: honorary presidents: Mrs. W. J. Doyle (Irene Aherne), Arts '14, and Dr. G. S. Cronk, Med. '15; president, A. S. Robb, Sc. '36; vice-president, H. R. Park, Arts '36; secretary-treasurer, G. D. Dies, Sc. '43; executive—W. L. McDougall, Com. '28, D. W. Bews, Sc. '14, Miss Ruth Silvester, Arts '46, Dr. A. E. Miles, Med. '42, D. G. Burr, Arts '36, J. A. Jarvis, Sc. '45, G. A. Clark, Arts '45, Picton, A. F. Brown, Arts '27, Picton, C. H. Buskard, Sc. '14, Deloro, Dr. J. K. Beach, Arts '41, Med. '44, Frankford. On motion of L. F. Reid, Arts '45, and Dr. A. C. Locke, Med. '21, the slate was approved.

In the discussion of possible activities during the winter months, H. J. Hamilton, secretary-treasurer of the General

Alumni Association, described various student undertakings which might be brought to Belleville under the auspices of the branch.

Vancouver Alumnae

ON November 26, the alumnae were entertained at the home of Mrs. Daniel Buchanan, their honorary president. At the short business meeting which preceded tea, several letters were read to the large gathering. These were mainly from European recipients of alumnae gift parcels. The branch, well pleased, voted to continue such gifts. Mrs. E. Page (Edna McCartney), Arts '19, gave a pep talk on the Queen's endowment campaign, which was well received.

Overall result: a pleasant and satisfying afternoon. —E.I.W.

Toronto Alumnae Plan Bridge and Fashion Show

QUEEN'S Alumnae Association, Toronto branch, has booked a reservation at Simpson's Arcadian Court for its annual bridge and fashion show on February 11, 1950. Contact the social convener, Mrs. Gerald Burley (Marjorie Harrison), Arts '24, RE 732*, or the programme convener, Mrs. Marsh Jeanerret (Bea Mellan), Arts '37, HU 6146, for tickets.

ATTENTION PLEASE!

The only way alumni can make certain of receiving their copy of the *Review* is to keep the Alumni Office informed of their up-to-date address.

Examine your address on the wrapper that came with this issue. If not correct in every detail, please notify the Alumni Secretary at once.

Alumni News

Births

Acton—On September 8, at the Ottawa Civic Hospital, to D. B. Acton, Com. '47, and Mrs. Acton, a son (David).

Argue—At the Ottawa Civic Hospital, on November 29, to Douglas Argue, Arts '36, and Mrs. Argue, a son.

Beveridge—At Halifax, N.S., on November 24, to A. A. Beveridge, Arts '49, and Mrs. Beveridge, a daughter (Cynthia Ann).

Benidickson—At the Winnipeg General Hospital, on October 21, to W. M. Benidickson, M.P., and Mrs. Benidickson (Agnes Richardson), Arts '41, of Kenora, Ont., a son (William James).

Breadner—At the Grace Hospital, Ottawa, on November 24, to J. A. Breadner, Sc. '41, and Mrs. Breadner, a daughter.

Brodkin—At the Royal Victoria Hospital, Montreal, on September 8, to Bernie Brodtkin, Arts '47, and Mrs. Brodtkin, a son (Gary).

Caldbick—At the Ottawa Civic Hospital, on November 16, to Wing Cmdr. G. D. Caldbick, Med. '37, and Mrs. Caldbick, a son (David Stewart).

Carmichael—At the Ottawa Civic Hospital, on September 8, to J. W. Carmichael, Sc. '38, and Mrs. Carmichael, a son (Allan Hamilton).

Christie—At the Kingston General Hospital, on August 20, to Parlane Christie, Arts '42, and Mrs. Christie, a son (Parlane Graham).

Clark—On November 17, at the Western Hospital, Montreal, to Dr. J. W. Clark, Med. '41, and Mrs. Clark, a son (James Rickerd).

Cunningham—On August 22, at the Hotel Dieu Hospital, Kingston, to Willis Cunningham, Arts '39, and Mrs. Cunningham, a son.

Dick—On October 6, to J. A. Dick, Com. '48, and Mrs. Dick, of Ottawa, a son (John Balfour).

Guest—On September 14, in St. Joseph's Hospital, Sudbury, Ont., to L. C. Guest, Med. '51, and Mrs. Guest (Margaret Anderson), Arts '45, a son (Lloyd William).

Gilbert—On November 13, at the Kingston General Hospital, to W. D. Gilbert, Sc. '32, and Mrs. Gilbert, a son.

Hare—On April 8, to Dr. J. H. Hare, Med. '43, and Mrs. Hare (Mary Frances Munro), Arts '43, of St. Thomas, Ont., a daughter.

Kirk—On October 17, in Victoria Hospital, London, Ont., to J. W. Kirk, Sc. '44, and Mrs. Kirk (Gwen Pearson), Arts '44, a daughter (Heather Pearson).

Knoll—On June 4, to Dr. F. Graham Knoll, Med. '41, and Mrs. Knoll, of Saint John, N.B., a daughter.

Leadman—At St. Luke's Hospital, Guildford, Surrey, England, on December

12, to Dr. T. P. Leadman, Med. '43, and Mrs. Leadman, a daughter.

McBroom—On November 26, at the Kingston General Hospital, to Dr. J. G. McBroom, Med. '34, and Mrs. McBroom, a son.

MacLean—At the Ottawa Civic Hospital, on November 23, to W. J. MacLean, Arts '46, and Mrs. MacLean (Ruth Woodruff), Arts '47, a son (Bernard Colin).

McQuay—At the Soldier's Memorial Hospital, Orillia, Ont., to Dr. N. W. McQuay, Med. '45, and Mrs. McQuay, a son (Peter Norman).

Marans—At the Kingston General Hospital, on November 27, to Mr. and Mrs. Harold Marans (Katie Ryan), Arts '31, a son.

Matheson—On November 24, at the Brockville General Hospital, to John R. Matheson, Arts '40, and Mrs. Matheson, a daughter (Wendy Jane).

Munro—At the Kingston General Hospital, on October 23, to Lt. Col. E. T. Munro, Sc. '37, and Mrs. Munro (Barbara Graham), Arts '37, a son.

Percival—On June 24, at the British American Hospital, Lima, Peru, to George Percival, Sc. '43, and Mrs. Percival, a son (Ronald George).

Peria—At the Ottawa General Hospital, on November 30, to W. T. Peria, Sc. '48, and Mrs. Peria, a daughter.

Preston—At the Ottawa Civic Hospital, on September 20, to Major W. Ross Preston, Arts '42, and Mrs. Preston, a daughter.

Robertson—On August 12, at St. Joseph's Hospital, Sudbury, Ont., to D. P. Robertson, Arts '40, and Mrs. Robertson, a son (David James).

Skuce—On December 10, at the Grace Hospital, Ottawa, to Lloyd M. Skuce, Arts '47, and Mrs. Skuce, a son.

Sigler—At the Ottawa Civic Hospital, on November 23, to Harry Sigler, Arts '31, and Mrs. Sigler, a son.

Sloan—On August 22, at the South Porcupine Hospital, to D. A. Sloan, Sc. '49, and Mrs. Sloan, a daughter (Diane Jean).

Smith—In Grace Hospital, Ottawa, on October 28, to Mr. J. E. Smith and Mrs. Smith (Margaret Burns), Arts '42, a daughter (Katharine Blakely).

Taylor—On December 5, at the Private Patients' Pavilion, Toronto General Hospital, to W. E. Taylor, Sc. '35, and Mrs. Taylor, a son (Robert Allan).

Tiers—On August 21, at Mount Hamilton Hospital, Hamilton, Ont., to Mr. Ross Tiers and Mrs. Tiers (Irene Mark), Arts '35, a son (Mark Walter).

Underhill—On December 15, at the Memorial Hospital, St. Thomas, Ont., to William Underhill, Sc. '49, and Mrs. Underhill (Barbara Lillie), Arts '51, a daughter (Susan Alane).

Marriages

Barrie—On June 25, in St. Paul's Presbyterian Church, Peterborough, Ont., Eula Rosenburgh, R.N., to Roger Oliver Barrie, Arts '49. Clarke Moon, Arts '49, was best man and R. J. Hope, Com. '48, an usher.

Carss—On June 28, Irene Agnes Carss, Arts '45, daughter of W. B. Carss, Arts '14, and Mrs. Carss, Kamsack, Sask., to Mr. Peter J. Konkin.

Harkness—On March 9, in the Church of the Nativity, Timmins, Ont., Betty Jo Anne Coleman to Thomas John Harkness, Sc. '47.

Law—On November 26, in the Blessed Sacrament Church, Ottawa, Adele Frances Lomer to Dr. Douglas Thomas Law, Med. '42.

Gardner—In Hillhurst United Church, Calgary, Alta., on November 4, Jean Loraine Hoover of Long Beach, Calif., formerly of Edmonton, to William John Gardner, Arts '39. They will make their home in Calgary.

Halsall—On December 31, at St. John the Apostle Church, Kingston, Mary McCarthy to Donald Lester Halsall, Sc. '49.

Haycraft—On June 4, at the United Church, Kapuskasing, Ont., Joyce Maxwell to Alan Finch Haycraft, Sc. '46. Douglas Millikin, Sc. '47, was best man. They are living in Kapuskasing where Mr. Haycraft is on the staff of the Spruce Falls Power and Paper Company.

Lingham-McKinley—In the chapel of Deer Park United Church, Toronto, early in December, Jean McKinley, Arts '44, daughter of Dr. J. N. McKinley, Med. '08, and Mrs. McKinley, Toronto, to Henry Thomas Lingham, Sc. '48.

Moncrief—On October 1, in Port Rowan, Ont., Ethel Marie Moncrief, Arts '48, to Mr. Edward Pennington McLellan. They are living at 44 Spencer Ave., Toronto.

Potts—On September 3, in Glebe United Church, Ottawa, Marion Alma Potts, Arts '49, to Mr. Alan James Williams. They are living in Kingston.

Robertson—On October 7, in All Saints Anglican Church, Ottawa, Ruth Maria Robertson, Arts '45, to Mr. Harold Dwight Campbell.

Rose—In Morgan Memorial Chapel, Queen's University, on November 19, Margaret Ailsa Rose, Arts '46, daughter of Dr. Bruce Rose, Sc. '09, Queen's University, and the late Mrs. Rose, to Lieut. Frederick Thomas Harris, R.C.S. They will live in Brandon, Man.

Surgenor-Armstrong—On September 24, in Trinity Anglican Church, Cornwall, Ont., Margaret Maureen Roseanne Armstrong, Arts '47, to Robert William Surgenor, Com. '47. Attendants included Doreen Jarvis, Arts '47, Gordon Hewitson, Med. '51, and Malcolm Welch, Arts '41. They are living at 502 Bronson Ave., Ottawa.

Weldon—In November, in the Morgan Memorial Chapel, Queen's University, Edna Shirley Jordan, of Perth, Ont., to John MacIlraith Weldon, Arts '51.

Whitmore—On December 3, in St. Saviour's Church, Victoria, B.C., Ann Ellsworth Collins to Dr. Duncan Richard Elmer Whitmore, Arts '39. They are living in Prince Rupert, B.C.

Wrong—On September 3, in Abbotsford, B.C., Mrs. Mary (Mollie) E. Anderson, widow of F.O. Liston Anderson, R.C.A.F., to James Stuart Wrong, Sc. '44.

Deaths

Campbell—After an illness of one month, Mrs. J. W. Campbell (Martha Houston), Arts '93, died in the General Hospital at Kingston, Ontario, on December 12. Mrs. Campbell was born in St. John, New Brunswick, in 1870. She received her preliminary education in Kingston and entered Queen's in 1889. She was predeceased by her husband, Dr. J. W. Campbell, Med. '91, in 1923, and one son, Dr. J. H. Campbell, Med. '26, four years ago. Surviving are one son, Dr. W. A. Campbell, Med. '24, one sister, and four brothers, including David Houston, Sc. '07.

Dick—Former assessment commissioner for the City of Kingston, William Dunlop Dick, Sc. '01, died at his home in Kingston, Ontario, on November 21. Mr. Dick was born in Kingston and received all his education in that city. He joined the assessment department in 1917. On April 1, 1939, he was appointed assessment commissioner, which position he held up to May 1, 1948, when he was made consultant to the department. Mr. Dick retired in September of this year. During the time he was connected with the city he was absent only eleven and a half days from his work. Among the survivors are his wife, one son, two sisters, and a brother, H. S. Dick, Sc. '13.

Foot—Former purchasing agent of the Aluminum Company of Canada, John Ronald Gartshore Foot, Sc. '28, died in the Western Division of the General Hospital at Montreal, Quebec, on November 16. Mr. Foot was born at St. John, New Brunswick, in 1905. Graduating from Queen's with his B.Sc. degree in chemical engineering in 1928, he joined the Aluminum Company in the summer in the same year. He served in numerous sales and purchasing capacities, rising to general purchasing agent in 1941. In this position he carried heavy responsibilities in the company's wartime expansion programme. In November, 1947, he was awarded the King Christian X Liberty Medal by the Government of Denmark in recognition of special war services rendered to Greenland when the Aluminum Company acted as purchasing agent for the colony. In July of 1949, Mr. Foot relinquished his purchasing post and was transferred to the general manager's staff on special duties. Survivors include his wife, a son, a sister, and a brother.



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Fry—Word has been received of the death of Mrs. R. G. Fry (Alice Orr), Arts '25, at her home, Ahory Manse, Portadown, Northern Ireland. Never robust, in late years of delicate health, the strain of caring for an invalid sister for seventeen months brought on a cerebral attack resulting in immediate death. Born in Ireland in 1886, Mrs. Fry came to Canada in 1914 as a qualified teacher. She taught in Western Canada for seven years, then went to Queen's for further study. In 1923 she married Rev. R. G. Fry, Arts '21. The

following year Mr. Fry was called to the United Church at Amherst Island where he and Mrs. Fry served for eight years. They returned to Ireland in 1933.

McConnell—While her husband, Rev. J. A. McConnell, Arts '99, was attending the reunion of his class at Queen's, Mrs. McConnell (Kate McConkey), Arts '03, died in the Misericordia Hospital, Winnipeg, Manitoba, on October 16. Mrs. McConnell was born in North Augusta, Ontario, in 1879, and attended the schools of that community and Brockville. She entered

Queen's in 1900 and graduated with her B.A. degree three years later. She taught in several collegiate institutes in eastern Ontario before going to Kenora. From there she was invited to Winnipeg and taught with outstanding success in Kelvin and St. Johns Technical Schools. Her first husband was W. W. Cross who predeceased her ten years ago. Mrs. McConnell was president of the University Women's Club of Winnipeg for three years and president of the Women's French Club at the time of her death. Interment was at Brockville.

Myers—One of the leading surgeons in the Maritimes, Dr. Ambrose R. Myers, Med. '94, died suddenly at Moncton, New Brunswick, on August 27. Dr. Myers was born at Forfar, Ontario, and attended the schools of that community and Athens before going to Queen's. He graduated with his M.D., C.M. degrees in 1894, and shortly afterwards opened a practice in Moncton that was to extend over fifty-five years. Later he took postgraduate studies in leading medical centres in Britain and Continental Europe, returning to Moncton. He retired three years ago. Dr. Myers gained prominence as a surgeon and was recognized as one of the most skilful in the Maritimes. And he gained fame for many years as a consultant, his advice and counsel being widely sought by fellow members of the profession. He was a fellow of the

American College of Surgeons and had served as president of the New Brunswick Medical Association and vice-president of the Canadian Medical Association. Other honours included an honorary degree from St. Joseph's University and the King George V Silver Medal. Among the survivors are his wife, two sons, and a daughter.

Pope—Recognized as one of Canada's outstanding medical men, Dr. Egerton Llewellyn Pope, Arts '95, died in hospital at Edmonton, Alberta, on November 23. Dr. Pope was born at Belleville, Ontario, in 1874, and received his early education there. He graduated in Arts at Queen's in 1895 and in medicine at McGill in 1900. Dr. Pope's postgraduate work took him to New York, London, Paris, and Vienna. He was a fellow of the Royal College of Physicians (London) and a charter fellow of the Royal College of Physicians and Surgeons (Canada). Following graduation, Dr. Pope practised in Quebec for six years before going west in 1906. He practised in Manitoba and later lectured at the University of Manitoba. In 1916, Dr. Pope enlisted in the Royal Canadian Army Medical Corps and served overseas, rising to the rank of Lieutenant-Colonel. In 1935 he was awarded the King's Jubilee medal. In 1923 Dr. Pope went to Edmonton to take the chair of medicine at the University of Alberta, retiring in 1945 as professor emeritus. Since 1944 he had served as medical director of cancer services for the province. Dr. Pope was actively connected with the Medical Council of Canada and the Alberta Medical Association, and through the years contributed many authoritative articles to the profession's journals. Dr. Pope is survived by his wife.

Roszel—After an illness of a few days, John Melvin Roszel, Arts '24, died in St. Joseph's Hospital, Toronto, Ontario, on March 18. Mr. Roszel was born in Wellandport, Ontario, in 1877, and received his early education in Peterborough. He entered the teaching profession and later took his University work extramurally and at Summer School. He obtained his B.A. in 1924, and his specialist's certificate in physical culture the following year. For many years he served as a high school principal, and after completing thirty-nine years of service retired in 1936. He was a past master of Peterborough Lodge A.F. and A.M. Among the survivors is his wife.

Notes

1890 -1899

Rev. D. L. Gordon, Arts '97, is retired and living at 371 Park St. N., Peterborough, Ont. He was formerly minister of Chalmers United Church in Guelph.

1900 -1909

Dr. J. O. Baker, Med. '08, Edmonton, Alta., recently visited his daughter, Mrs. Bruce F. Macdonald (Lois Baker), Arts '42,



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**SUN LIFE
of CANADA**

BRANCH OFFICE AND AGENCY SERVICE
THROUGHOUT THE NORTH AMERICAN CONTINENT

K. E. Eade, Sc. '48, is continuing his graduate studies in geology at McGill University.

Avery Dunning, Com. '41, received his chartered accountancy degree recently. He is with P. S. Ross and Sons, chartered accountants, Royal Bank Bldg., Montreal.

W. H. Ellis, Arts '42, A. C. G. Jarvis, Sc. '43, D. C. Moreton, Sc. '45, R. G. Newell and F. S. Brown, Sc. '46, J. R. Waller and C. F. Blancher, Sc. 48½, and J. G. Field, Sc. '49, are taking the Intensive Business Administration course at the University of Western Ontario, London.

Mrs. Andrew Ensor (Joan Rayner), Arts '45, who spent some time in London, England, with the publishing firm "Christophers" before her marriage in 1948, has returned to New York City with her husband, a graduate of Oxford. They are living at 228 East 43rd St. Mrs. Ensor is at present an editorial assistant in the publishing firm, Random House.

Evelyn Marie Fisher, Arts '47, is an instructor in child psychology at Macalester College, St. Paul, Minn. After leaving Queen's she spent several months as senior psychological interne at the Ontario Hospital in Orillia, Ont., and then did postgraduate study at the University of Minnesota, Institute of Child Welfare.

Carson Flammer, Sc. '41, received his Ph.D. in Applied Physics from Harvard University last June and is now research physicist at the Stanford Research Institute, Stanford, Calif. He is living at Palo Alto with his father, Dr. Ernest Flammer, recently retired as Professor of Physics at Queen's.

J. M. Gillette, Arts '49, is a graduate student in botany at Washington University, St. Louis, Mo.

L. C. Gunby, Com. '42, has been appointed assistant manager of the Hamilton branch office of Central Mortgage and Housing Corporation. Since 1947 he has been secretary of the Ontario regional office in Toronto.

K. F. Harding, Arts '40, is general manager of the Fishermen's Co-operative Association, Prince Rupert, B.C.

E. W. Harrison, Arts '46, formerly with Canada Packers Limited, Toronto, recently

joined the staff of Price Waterhouse and Company, Montreal.

Mary Johns, Arts '49, is with the Bank of Canada, Ottawa.

K. L. Keller, Sc. '48, is with Brunner Mond (Canada) Limited, Amherstburg, Ont.

W. H. Kesterton, Arts '42, is lecturing in journalism at Carleton College, Ottawa. After receiving his Bachelor of Journalism degree at Carleton last year, Mr. Kesterton spent the past summer on the staff of the Regina "Leader Post."

H. W. Knepler, Arts '45, is working towards his Ph.D. in English at the University of Chicago.

D. R. Mason, Arts '49, is accountant for the King Paving Company, Oakville, Ont.

Harry Messel, Arts '48, Sc. '48, recently completed a year's postgraduate work in mathematics at St. Andrew's University, Scotland. He is now carrying out research in theoretical physics at the Institute for Advanced Studies, School of Cosmic Physics, Dublin, Ireland.

Cyril Morris, Arts '45, Sc. '47 (M.C.E. Cornell), is in the office of the chief engineer, C.N.R., Toronto.

R. L. Roscoe, Sc. '44, is with Boyles Bros. drilling firm, Vancouver, B.C.

L. K. Rutledge, Arts '41, Sc. '43, is in the engineering department, Trans-Canada Air Lines, Dorval Airport, Montreal.

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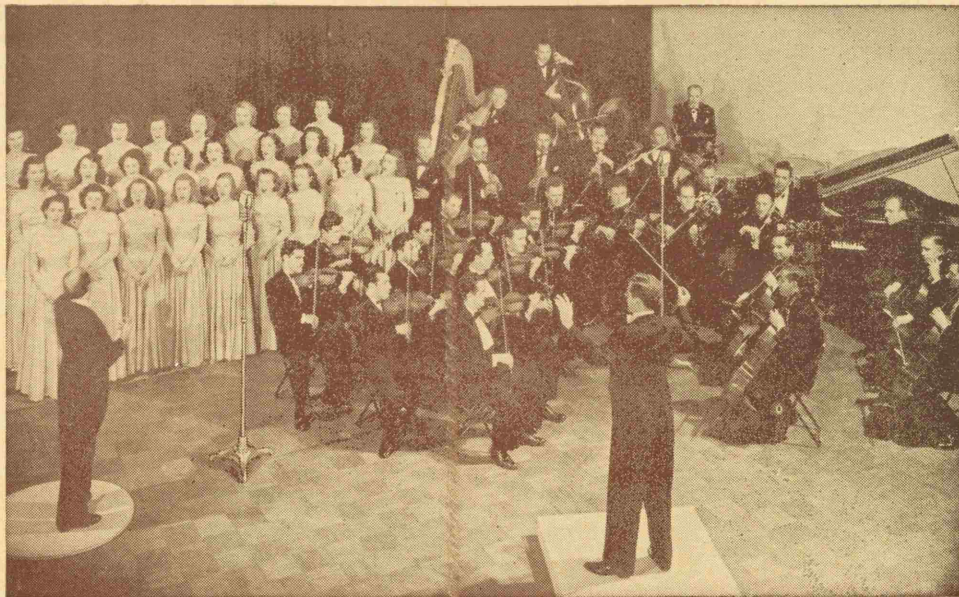
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THE
CANADIAN
STUDENT
A VENTURER IN OPINION



DECEMBER, 1925

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MY ROAD	- - -	BUNNY
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VOL. VIII, No. 3

PUBLISHED BY THE STUDENT
 CHRISTIAN MOVEMENT of CANADA
 AT MONTREAL   20 CENTS

THE CANADIAN STUDENT

Published Monthly during the Academic Year, October to March inclusive

THE CANADIAN STUDENT exists to give utterance to the thought of students on vital matters, not to propagate the ideas of any group or society. It is edited and published by members of the Student Christian Movement, but it best represents the spirit of that Movement by according to every shade of opinion complete freedom of expression.

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\$1.00 per Year

Single numbers 20 cents

Subscriptions should be made payable to THE CANADIAN STUDENT and sent to 76 Avenue Road, Toronto.

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The Student Christian Movement of Canada is a fellowship of students based on the conviction that in Jesus Christ are found the supreme revelation of God and the means to the full realization of life.

The Movement seeks through study, prayer, service and other means to understand and follow Jesus Christ and to unite in its fellowship all students in the colleges of Canada who share the above conviction, together with all students who are willing to test the truth of the conviction upon which the Movement is founded.

THE CANADIAN STUDENT

A VENTURER IN OPINION

VOL. VIII

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No. 3

“TO TRAVEL hopefully is better than to arrive.” At the end of the day this sentence will condemn our generation. There is madness in our anxiety to reach objectives, achieve results, break records. We mortgage the future to have a creditable report. We pad the roll to make a show of numbers. We advertise to get the crowds, and having gotten them we send them empty away. We waste energy in a supreme and foolish effort to impress the spectators, and afterwards sink into the oblivion of our own discouragement. O Vain Illusion, the illusion of success!

And yet we never seem to learn from our experience. At every suggestion of recurring strength in us we rise to pursue the mirage again, to wear ourselves out in the mad rush, to murder conscience and mind in the ceaseless round of getting things done.

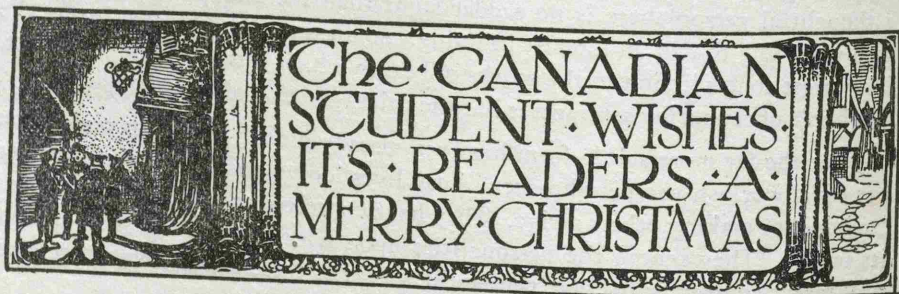
This illusion is the greatest peril to our civilization as it has been to others. At present it suggests itself in two forms. The most common and the oldest, of course, is found in the man dominated by the desire for possession of money, property, or power. He has been denounced by moralists since the world began, and little good would be done by continuing the strain; but without question, to a thoughtful person there is no sadder sight than the disappointed millionaire vainly striving to find an interest in living. Soulless eyes and bloated luxury, he is a veriest contradiction to the works of beauty which it is his hobby to collect. The horde of clamoring aspirants is but the paler reflection of his unhappiness.

But the far more subtle form has been already hinted, those less pretentious but equally selfish people who spend busy lives ‘doing good.’ They are bent on ‘arriving’ or making others arrive. They have conceived an end for the world and its burden. They ignore the personalities upon which they trespass in anxious well-meant endeavour to ‘save the world.’ It is of these a well-known professor

spoke when he said recently: "If the nations of the West would stop 'doing good' and begin to do right in China, there would be some hope for that difficult situation." He was not being cynical merely nor splitting hairs in his distinction. He was pointing out the need for an intelligent approach to the problem. And an intelligent approach to any problem of life reveals the unwisdom of absolute standards and goals. Rather we travel on from hope to hope if we travel well, and our minds are open all the way.

A growing enthusiasm and news of delegations reaching and passing their allotted number mark these days before the Western Conference. Many people who would otherwise spend Christmas Day on the train are planning to start earlier and form the first party in Saskatoon. The programme begins to take definite shape. Early disappointments are forgotten in the joy of new-found leaders and unexpected registrations from recent 'grads,' drawn to spend the holiday with the Movement 'crowd.' Around the University of Saskatchewan a group of busy people are making ready. The 'tang' of excitement is in the air. Those who go will be fortunate. The rest of us will be with them in spirit, hoping that many will find in this conference a larger vision of life at its highest and best.

The fall months are the testing time for the finances of the Student Christian Movement. In summer, contributions are small. With the return to college there are many demands upon us. The awakened sense of responsibility comes only after some months of constant touch with its work. But all year round the Treasurer has his obligations. Salaries have to be paid every month. The beginning of term brings the burden of extra travelling expense, supplies of books must be laid in, a magazine must be established and creditors will not always wait our convenience. We owe it to the people who receive salaries from the Movement that the always difficult task of finance shall not fall on them.



HO! EVERYONE THAT THIRSTETH

A. Vibert Douglas

I

A QUIET Sunday afternoon, a gentle breeze from a nearby lake, the shade of a whispering walnut tree, and the recent supplement of *Nature*—such is the setting for scene one.

The supplement was in commemoration of the centenary of the birth of Thomas Huxley. The reader was for the time being a visitor in a neighbouring country in which today there is being waged a battle for freedom and honesty of thought against narrow dogmatism and intolerance.

Page after page of the magazine was read with sustained enjoyment: the son's memories of his father, his early realization of the parent's passion for truth, for absolute sincerity and integrity; the tribute of one after another of Huxley's students all stressing the same point, the intense honesty of mind and spirit, the fearless defense of truth and freedom of thought. Furthermore, here was a seeker after truth, a scientist in the highest, noblest sense of that oft-abused word, who strove ceaselessly and untiringly to better the conditions of mankind, to alleviate human suffering and distress, and to do it by teaching men how to lift themselves toward higher ideals. Such lifelong devotion to the cause of truth and human welfare can arise only from the promptings of a soul ablaze with the divine fire.—"By their works ye shall know them." "A corrupt tree cannot bring forth good fruit."

Here was a man with the courage born of honesty, courage which impelled him to face the facts of Nature, to use the divine powers of reasoning within him and to proclaim the dignity of mankind in words too seldom recalled: "Our reverence for the nobility of manhood will not be lessened by the knowledge that man is, in substance and in structure, one of the brutes; for he alone possesses the marvellous endowment of intelligible and rational speech, whereby, in the secular period of his existence, he has slowly accumulated and organized the experience which is almost wholly lost with the cessation of every individual life in other animals; so that now he stands raised upon it as on a mountain top, far above the level of his humble fellows, and transfigured from his grosser nature by *reflecting here and there a ray from the infinite source of truth.*"

The writer awoke from a reverie of hero worship, refreshed with the inspiration which is invariably to be found in the biography of a man or woman of great courage, of noble purpose, of patient and ceaseless striving against the disappoint-

ments and trials of life. Happy indeed was England that in the hour of her doubt and uncertainty she had a Huxley to guide her into the great highway of Truth.

II

The same quiet Sunday in the evening, a white stucco village church, a full congregation of villagers and the inhabitants of nearby homes, a front pew occupied by boys and girls about to pass out from the sheltering walls of the high school, a young College graduate preaching the baccalaureate sermon—such is the setting for scene two.

The text is given after some preamble, and appeals very much to the stranger in the back pew—"The fear of the Lord is the beginning of wisdom." A helpful sermon is anticipated, but before ten minutes have elapsed the stranger is sitting up aghast. What words are these? Is this indeed the year of our Lord one thousand, nine hundred and twenty-five? Will this congregation sit still and allow these growing boys and girls to be told that Science and the Bible cannot go hand in hand, each giving to mankind something of divine truth? It is impossible to believe the ear is not deceived. But no, it is only too true, and there is no one to rise up and say to these children, "Follow the light of Divine Truth wherever it lead!"

On and on goes the speaker, growing in violence and in exaggeration as he proceeds. He paints a picture of the lawlessness of the land, of the evils of the great cities, of the misery of multitudes, and he blames it entirely upon modern science. "Yours is the choice," he proclaims to these sturdy youths, "between God, the Bible and all that is good and beautiful, and your Edisons, poison gas and all your science and evolutionary theories leading to the damnation of your souls."

Amazed, aghast, unutterably sad, depressed and indignant the stranger walked slowly home along the dark country road. Overhead the stars were shining forth proclaiming the glory and immensity of space and time, the majestic mystery of the play of natural forces, the vastness of that underlying Energy which fills all space, the solemnity of Nature which impells a reverence and awe—"Put off thy shoes from off thy feet for the place whereon thou standest is holy ground." Eternal Truth must conquer eventually, but that such poisonous ideas should be thrust upon young, susceptible minds is to put the most appalling brake upon intellectual and moral progress.

III

Surely Canadian students will take no such one-sided view. Alas for this country, if from her colleges she sends out men and women whose eyes are blinded to the essential harmony which must underlie *all* Knowledge.

The injustice of the accusation that what is evil in modern society is a result of scientific progress is too apparent to delude any but the least thoughtful. The brotherhood of those who are engaged in the advance of pure science, (let us call

it the Brotherhood of Torchbearers, to borrow a metaphor from Alfred Noyes) is one of the most remarkable examples of comradeship ever witnessed. It knows no barriers of race or creed, of nationality or language. It is open to all students of nature on one condition only, as expressed by Huxley, that "the divine afflatus of the truth-seeker" be not wanting. Modern conditions of suffering, suspicion and discontent are traceable, not to the scientist, but to the man, be he business man or politician or almost anything else, whose lust for gold or lust for power has become the ruling passion of his life, making him a curse upon the face of the earth.

There is but one way to combat this despicably selfish, materialistic tendency. That one way is certainly *not* to be found in preaching to the boys and girls of this land that science and religion are eternally opposed, that they must believe their Bible word for word, never seeking to discover its deeper meaning by the aid of honest, open-minded, reverential study in the light of modern scholarship.

The one and only way to lift humanity to a higher plane is to teach the youth of the land to make the guiding principle of their lives fearless honesty of thought and action, deepest reverence for truth and righteousness. Without these as the basis of character Christianity is an empty name, for these are its very essence. "Let Knowledge grow from more to more, but more of reverence in us dwell."

Where a youth is presented with a choice between scientific truth and the Bible, if he be fearless but unwise he will choose the former, and his religious life will be warped or stifled; if he be wise as well as fearless, he will perceive that in Science and Religion there are given him two good cables by which he may lift himself to greater heights. Though he may not see far enough into the distance to discern their point of union, the common sense decision will be to take firm grasp of each—to read the Book of Divine Inspiration and the Divine Book of Nature, confident that if this be at all a reasonable world the two books are but different aspects of a far-off Ultimate Truth towards which mankind must strive by every God-given path.

The greatest need of any country today is a prophet who will cry aloud: "Ho, everyone that thirsteth, come ye to the water-springs of Truth;" a philosopher who will insist upon the dignity of man, the reality and solemnity of his spiritual nature, the obligation which rests upon him to play fairly and squarely with his brother man; a Torchbearer who will say with the apostle, "Hold fast to that which is good,"—your Bible, your Religion, and at the same time, "Strive to prove all things," to wring forth the secrets of Nature that the sum total of human knowledge may be increased. "This above all, to thine own self be true," for in Huxley's words, "That enthusiasm for truth, that fanaticism of veracity . . . is a greater possession than much learning; a nobler gift than the power of increasing knowledge; by so much greater and nobler than these, as the moral nature of man is greater than the intellectual; for veracity is the heart of morality."

MY ROAD

Bunny

LIFE is the glorious road of utter freedom. It is not a narrow road but broad, full of sunshine and laughter. And because I have found my road so broad, so broad that no hedge may be seen, I needs must tell you of it.

It stretches over prairie lands and cities, Canada and all other countries. I have followed it to slums, to peace in India, to woolly-haired "boys" in Africa, and to plowing on the land. I can go where I please over the whole world

—So wide is my road.

Friends are on my road too . . . Just working there. I can see them laughing as they rest awhile and stretch up to God. No one forces me to work. If I see a child crying I may stop and comfort it. I can go down into hell with any man. I can show them the Kingdom of God. I can fight too, fight in a battle where death would seem better than despair. But I am never lonely. I am always understood by some, always loved by some.

—I have friends upon my road.

And beauty is there in friendship. Trees are kindly; winds sing to me and the flowers of the world are mine. Even Truth is beautiful and full of Peace. Women have splendid eyes, and clean, pure, white bodies that gleam in the sunshine. Men are straight, and full of laughter

—Beauty is on my road.

Love is on my road—I live love. Love comes to me so helpless that I bow my head in shame. Some laugh at me because my clothes are old; some call me fool because I am not tied; some curse me because I set folks free; but some love me and I love all.

—God is on my road.

ON MINORITIES

Sylvia Thrupp

ROGER BACON, who spent fourteen years in prison, and had leisure enough there to think, said that minorities were always right. If he had lived in the twentieth century instead of the thirteenth his audacity might still have earned him a prison sentence, although not, perhaps, on scientific or religious grounds. Our capacity for tolerance has widened, and there are signs that the middle ages of the Western mind are drawing to a close. Mushroom sects have now as much right to advertise their spiritual wares as any ancient church; scientific heretics have nothing worse to fear than ridicule or silence; even economic heresies may safely be expounded in technical language, and political minorities are accorded the right of protest.

The majority of mankind go their passive way, ignoring, until death has lent them respectability, the multitude of prophets that cry out for disciples. They are too absorbed in the mere business of existence to think out the problems that agitate the few. They are content to call fundamental those matters on which they can agree, and resent having their collective opinion questioned. Some combative minds find it necessary to disagree with all accepted views, others worship what is new to them as consistently as conservatives defend the old. Every lost cause numbers among its supporters some of these fanatics. In every minority, however, there is at least a nucleus of thought.

But when the lost cause becomes popular, when the persecuted sect becomes a Church, the nucleus tends to be swamped. So the enthusiasm for life that generated Christianity has been diluted, at times nearly extinguished, by the dark paganism and materialism of its converts. The flame broke through in Francis of Assisi, in Eckhart and the German mystics, without kindling the masses. It may break out again in unexpected places, although generations of commercialism have nearly stifled it. Most of us, "vague half-believers of our casual creeds," offer them our allegiance from habit, while inertia prevents that allegiance from having any far-reaching effects. How many Christians live by the scale of values set up in the Sermon on the Mount, or even seriously contemplate the possibility of such a life?

Thinking Christians are in a minority because religious minds are in a minority. The pagan mind may extract great joy from life, but it inherits a vestige of the great prehistoric fear of the Unknown. So religion is regarded as a possible means of insurance: it is given the benefit of the doubt. Besides, the church bolsters up morality, and other institutions necessary to society.

The pagan lacks the conviction of individual immorality, yet he is capable

of more altruism, more thought for his kind, than the heirs of the selfish Protestantism bequeathed us by the Reformation. His morality is based on the experience of the race, but its yoke is not easy, nor is there freedom in its service.

The irreligious mind accepts the world as it is, dominated by evil and death. It submits without rebellion, sometimes by means of a religion that holds out hopes of a comfortable heaven for believers in it, and a divine intervention that will some day set things right without much effort on our part. Meanwhile it regards war and all the other horrible results of its own selfishness as inevitable, immovable mountains in the path of human progress.

With people accustomed to the idea of old age, disease and death this attitude is natural enough. Man is born to suffer and to die, and when he is never more than half alive he can think of no other fate. We accept unnecessary suffering, we are satisfied with a low standard of health, and consequently with a diseased society. We do not ask to be made whole, we feel no need for any new influx of life, for any salvation. Yet we go to church and sing hymns about a Saviour. From what did he save us?

The religious mind is filled with a sense of the unity of life. It is mystically convinced of its divinity, or of its unity with God, whichever way one chooses to express it. And if the mind is in harmony with the whole personality, then faith is born, or consciousness of power. Then we recognize a leader, and under his inspiration can do things we thought impossible.

There is perhaps more talk about religion today than ever before. The minority that has really thought its way to understanding is small, but if it would only yield to faith, be guided by its vision, then what might not be made of the world! It is large enough to move mountains if it would.



THROUGH A GLASS DARKLY

E. G. Maxwell

TO SEE JESUS one must penetrate through a medium that blurs and distorts the perfection of his image. The synoptic gospels form the medium through which glimpses of the historical Jesus may be obtained. Unless the errors that are introduced by that medium are known and, as far as possible, compensated for, the picture of Jesus is likely to be entirely out of focus.

Because of the difficulty of seeing Jesus clearly, men and organizations have for centuries used his name to sanction many varied and often conflicting philosophies of life without, apparently, doing violence to their belief that they were his followers. The variety of evaluations and interpretations of Jesus that are current in the world make it impossible for men to satisfy themselves of the truth about him without making a personal investigation of the original records of his life. Such an investigation has revealed Jesus in an entirely new light to many people. Adults see the unreality of their childish conception of Santa Claus, though they often retain an equally unreal conception of Jesus. When scientific honesty is used in an attempt to understand Jesus, the creation of the childish imagination is displaced by the picture of the historical Jesus whose vitalizing personality breaks through the limitations of the cold print that records his story.

The teaching, the idealism, the life of Jesus are irresistibly attractive to all who come to understand him. If the real Jesus could be raised up so that he might be clearly seen, he would surely draw all men unto him. There are infinite possibilities in the power of Jesus over men. There seems to be something latent within all people that leaps in response to the fineness of Jesus when he is clearly seen. He holds the secret by which ultimate satisfaction may be found.

Through contact with Jesus, that secret may be discovered. Many people will never discover the secret, however, because age-long and widespread misunderstanding of Jesus prevent them from seeing him clearly. The greatest work to be done in the world is to break through the false traditions that have grown up around him and to remove the things that obscure the real Jesus.

FOOD—FOR THOUGHT

Hugh MacMillan.

"**B**READ, don't speak about bread. I'm tired hearing about it. To have my lunch now would strengthen me for getting across before the storm," Peter's were the first really outspoken words since they got into the boat a few minutes previously, though there had been much muttering in undertones. Peter's outburst was the signal for many of the murmurs becoming more articulate. So the storm that had been rumbling since the meal in the desert, yes, even since Jesus asked them to come and rest, now broke and began to spend itself.

"Why did we go with him to that desert place?" said John in phrases punctuated by spasmodic pulls on his oar. "I hate such mixups as this!" Several voiced assent.

"Why did he take us there, is what I'd like to know," said a voice. "Rest a while . . . We weren't tired!"

"Did he mean just rest?" asked one—Andrew, in a less agitated tone than the others, but seeming eager to say something further.

"What else could he mean but rest?" broke in Philip who knew the country covered in the mission. "We were telling him all about the great success we had in every village we went to when he interrupted us. Of course, we needed a rest if anyone ever did. Never has there been such a movement as that which we began. Never were so many people healed. Never so much teaching. Why, we didn't stop to eat! The Pharisees' efforts to meet the needs of the people are as nothing compared with what we have accomplished. We certainly needed a rest."

"But we got very little rest!" continued a high-pitched voice. "Who could get a rest with such a crowd? If it hadn't been for the fact that we went off and left him with his crowd, we wouldn't yet have our rest." "Send them away? . . . he wouldn't hear of it. We didn't want to sit and eat our lunch with that jabbering rabble of diseased and devil-possessed crowd. I'm sick of crowds. But he, he sat them all down and made us divide up the food. I hated putting my hands on some of the stuff I saw there."

"Do you think they were satisfied," broke in Andrew, who had been impatient for a chance to speak. "Satisfied, what do you mean?" "Well, I think they were," went on the questioner. "I was surprised to see the amount left over after the whole crowd had eaten. I have been thinking a good deal about it all. I am beginning

to see that our whole mission has been a miserable failure from Jesus' point of view. I think I now understand something of the pained concern for us I saw in his face as we, fickle creatures we are, ran away and left him. Really, I for one haven't been sharing with people as Jesus always does. He gives his last to them without ever thinking of himself. He will even sit and eat the food they share with him without fearing their dirt or diseases. And they love him more than they love me. That must be because he loves them more than I do. I wonder how he does it. He must have a secret we don't know. Maybe that's what he wanted to talk to us about when he took us away to that secluded place."

"We thought we were feeding the people with what would satisfy, but our healing and our teaching left their real need untouched. They were still dissatisfied and confused and hungry for something else. Maybe Jesus wanted us to think seriously about that when he said: 'Give ye them to eat.' We didn't have that kind of bread to give them. Would that we were back with him again! O that we hadn't left! Would that he were here now! I miss him."

A silence fell over the group as Andrew talked on. The confused mutterings of stubborn hearts became silent. Creaking oar-locks groaned less as a steadier rhythm began. Even nature changed as peace began to dawn on the stormy hearts of the men.

Attitudes changed rapidly among them. Those who hastily turned away from Jesus in the desert now as hastily became desirous of returning. Those who turned from his spirit now began to feel that his spirit was returning into their midst. All this was happening in the silence. Each one realized what was happening, but no word was spoken.

It was Peter who gave first utterance for all of them when he cried out, trembling, as Jesus appeared, "Lord if it be Thou, call me and I will come to Thee again even across the water." Peter did not realize that his weakness would not allow him to get very far without sinking. Indeed, would he not have said the same sort of thing on another occasion, in the same boat? But that matters not; he does again see and sees clearly that the bread of Jesus is the bread of life.



IMMORTALITY

Raymond Gushue.

THE QUESTION of Immortality is, perhaps unconsciously, and I think commendably, "taboo" or untroubled by the average student of to-day—and by the word "student" I mean the thinking student, who expresses the highest development of University influence. In contrast with the fervid, fevered hunt into the Future of years ago, he has achieved a receptivity or placidity which says: "I have work to do, and the game of Life to play—the work is worth doing, and the game worth playing—let the trophy come." He feels that, whatever the solution, be it oblivion or sentiency, he has kept the faith; so the average study group, and the student-product of the group, let the question of Immortality alone—not severely alone, but nevertheless alone. But, while admittedly the question is linked up with, and affected by self-interest (which is not the same as selfishness) there is a mental stimulus, if nothing else, in analysis; we keep our vision acute by trying to pierce the gloom, provided we do not foolishly strain our vision. So for a few moments let us, as the Scriptures say, reason together—it is not an intrinsically vicious habit.

There are several "stock" conceptions of Immortality, which, for convenience sake, I am going to place under four main headings:

1. That the "body" rises again, on earth, at some future time.
2. That the "soul" separates from the "body" at death, and that they come together again, on earth. This is similar to No. 1.
3. That the "soul" lives on, in a new body, on the same earth.
4. That the "soul" lives on, in some other form, on some other plane or planet.

I shall not attempt to add to, or detract from any of these. They have been discussed for centuries, and be it far from me to add to the confusion, or thus vainly attempt to unravel "the Master-knot of Human Fate." I have followed the arguments, very earnest and quite as unconvincing, of able minds in their attempts to give us assurances of Immortality in some of these four forms—frankly admitting that lack of Assurance does not mean lack of Reality. I should not care to have you, after following my reasonings, re-echo the complaint of Omar Khayyam, where he says he sought greatly,

—"*but evermore*

Came out by the same door as in I went."

and it is practically impossible to do otherwise. Personally, I have a great deal of

admiration for the Stoics, who held that "Virtue was its own reward," and who gave of themselves, firmly believing the while that with Death came oblivion. Moralists may call it "enlightened self-interest," and we must agree, as they must, when we say that the old Stoics really saw "The Light," unobscured, undimmed, and unperverted—they saw God.

But, shining through all these thoughts and theologies, there comes a conception of Immortality, far finer than these four. It is based on the reasonable, and to me incontrovertible argument that every individual is a receiving and transmitting centre; that each of us is continually receiving and making impressions, feeling and creating influences. Our bodies die, our brains are checked, and our very personality forgotten, but behind us we have left currents and under-currents, smooth waters and eddies which affect, sometimes consciously and oft-times unknowingly, the lives and opinions of others. We ourselves are the result of the tides of the centuries; our actions, thoughts and beliefs are shaped, centred or stimulated by those of countless minds before us—we feel the force but do not see the hand that created it. And to-day we are creating these little cross-currents and swirls that will influence people who will never know, and never care just what particular bubble on the flood we were. Far fetched, you say? Two thousand years ago a trickle started in Galilee, which to-day is a navigable river in which the deepest boat can sail. And so example grows.

This then is the Immortality that I preach—the "Immortality of Example," and to me it is the finest of all. For if we reach the highest conception of living, we are not so much concerned in the question of our own Immortality, body or soul, as we are in the continuance of that "Will to do good" which is its own reward. So, adding this conception of Immortality to the four already listed, have we anything that helps us? I think we have. And have we an Assurance of Immortality? Unquestionably so, it seems to me. For, after all, it is Life and not Death that concerns us; Death may be a sleep or an awakening, and we can welcome either. But if in our living we create Life, in its fullest sense, it is the thing that is nearest to us, and we have the realization that that which is thus dearest cannot die—Life is Joy of living, and our life will go on, perhaps in others, but it will go on. As for our own little "spangle of existence"—"*Ca ne fait rien*," as the French say with a shrug. Even there we have the consciousness that a healthy Mind or Soul is, like the virtue of the Stoics, its own reward. Do you remember who said, "The Kingdom of Heaven is within you"? So, quoting Omar again, and extending him, without apology, where he says, "One thing alone is certain, This Life flies"—another thing is certain, that "No man liveth unto himself, and no man dieth unto himself." Here is an Immortality indeed!

THE RELEASE OF LIFE

Jack Irving

I WANT that unrestricted activity which leads to the complete realization of Life in God. In the name of the logical method and the realistic metaphysics, Mr. Bertrand Russell, the outstanding philosopher and scientist of our day, holds out to me no finer hope, no greater promise, in his most famous and beautiful essay, than the devastating thought that "Man is the product of causes which had no prevision of the end they were achieving . . . that no fire, no heroism, no intensity of thought and feeling can preserve an individual life beyond the grave; that all the labours of the ages, all the devotion, all the inspiration, all the noonday brightness of human genius, are destined to extinction in the vast death of the solar system . . . in the debris of a universe in ruins . . . Man's life is brief and powerless . . . on him and all his race the slow, sure doom falls pitiless and dark . . . the trampling march of unconscious power."

My mind and spirit stagger long under the attack, as I realize that, as far as my personality is concerned, the greatest intellects of the West merely chatter like idiots when they attempt to refute Russell's philosophy and alleviate my unyielding despair. I turn to the organized religion of the West, but there I find no refuge. Instead I see broadside after broadside being poured unceasingly, pitilessly into its thin ranks and spent forces. I see the creeds and dogmas of the ages quiver in convulsions amid the terrific cannonade. I see, in the supreme debacle of modernism, the mighty Past, hovering over the human spirit like the enchanting glory of the leaves of late autumn, whose frail grandeur is spoiled by the slightest breath of frost. I see this mighty Past, in its shattered moments, attempt to "explain," "defend," "re-interpret" the creedal platitudes of stoic philosophy, Hebrew eschatology, Mithraic symbolism, and Roman codal compromises. I see life powerless in the face of Nationalism in the West with its squalid treatment of the Indian and Chinese races. I see religious idealism impotent to stem the advancing floods of industrial aggression, with its subversion of all love. I see "service" and "sacrifice" organized into existence as a dramatic release for exhibitionistic tendencies of moribund enthusiasts. . . .

All this is but a quiet prelude to the storming ferocity of the final struggle in which every concept, every achievement of the ages is examined searchingly, and the whole sweep of human history is tested not only in the regions of the Intellect and Will of Man, but even in that last refuge of the human spirit, the crucible of Imagination. Only the starkest reality survives the dark night intact, but this reality is of a crystal-clear Beauty. In this glorious, jewelled survival I see indeed

that "the old idol of clay" has actually been replaced by a "new image of shining gold" whose sway no human spirit can resist. Life is liberated from the restricting empires of the ages, Superstition and Ignorance. I see the surging intensity, the dynamic potency of the human spirit as it fearfully discovers itself in this new-found Kingdom of God. But I cannot describe this vision splendid, which "haunts me like a passion, . . . trailing clouds of glory" as it rises ever fresh and new within my spirit. The very secret of Life is there—for it is the achievement of oneness with God.

I see that this achievement of Life is like a treasure hidden in a field, which a man found and hid; and in his joy he went and sold all that he had, and bought that field. This liberation of Life is like a merchantman seeking goodly pearls: and having found one pearl of great price, he went and sold all that he had, and bought it . . . Whoever seeks to save his life loses it . . . Whoever loses his life, finds it. . . .

I see this life as a flow rushing along in harmony with the banks of the universe which alone confine it. The vision of the fulfilment of Life challenged me, as I still cling . . . afraid . . . to the frail supports of self. But I ever see during that terrific struggle the treasure and the pearl . . . in comparison with which everything else pales away into insignificance. Still afraid . . . I hesitate . . . I save my life, only to find it slipping out of my hands . . . No longer fearful, I leap in, and with the venture comes the release . . . I have lost nothing except that negative phase of self, which had locked up the greatest treasures of Life. I do not even leave the beauty of literature nor the stern discipline of scientific study, for "where can I meet thee unless in this mine home made thine? Where can I join thee unless in this my work transformed into thy work? If I leave my home, I shall not reach thy home; if I cease my work I can never join thee in thy work. For thou dwellest in me, and I in thee. I without thee am nothing. Thou without me art nothing." . . .

No longer do I sustain, "a weary but unyielding Atlas, the world which my own ideals have fashioned, despite the trampling march of unconscious power." For in the fulfillment of Life I have found the answer to nature's realism. The voice of Jesus of Nazareth (which I now for the first time understand) speaks to me with a new and glad richness: "Whoever shall say to this mountain, be taken up and cast into the sea; and shall not doubt in his heart, but shall believe that what he says will come to pass; he shall have it." In this freeing of Life I have discovered the joy of Being, the happiness of God, and the supreme love of the universe.

A BOW AT A VENTURE

(The Editor will be glad to receive short contributions for this page)

IT NEEDS resolution to absent oneself from the Sunday morning service in our family. All day the air is electric with disapproval, discernible even though unexpressed. There are casual questions of how one's morning was spent, and, at dinner, glowing accounts of the fine sermon—discreet attempts, these, to make one feel what one has missed.

A rare Indian summer morning determines me to incur all this. What a sense of freedom when the last church goer has left! I can sit outdoors without hat or gloves. Look at the haze—not factory smoke today—half hiding the close rows of the city; but over the hill the sky is blue as babies' eyes. The squirrels shuffle busily among the fallen leaves; they dared not dream of such a respite from the snow. South-going robins have left a few red berries on that vine, and there are still a dozen undaunted leaves on the black oak tree. At intervals, chickadees call; they will not desert us in the worst of storms. The canary inside the window trills a few bars; he too is glad to see the sun again.

Blessings on the old Hebrew who first invented "the seventh day," and on those strict forefathers who handed down our rigid tradition of church attendance; for it is due to them that I can sit here alone an hour or two, breathe in the blue and red and brown, and grow fresh love for work, for life, for God.

K.

I AM sometimes criticized for my association with Jews. Many of my closest friendships are with members of that race. A couple of years ago I met one with whom I have since become quite intimate; really a striking person. He possesses many of those characteristics which are most repulsive in the eyes of Gentiles; he is a Jew of very Jews, intensely nationalistic, completely wrapped up in the welfare of his people, yet he has the soul of a poet—he is a poet. He is a man of vision too, with startling breadth of outlook and a heart big enough to include all people.

I consider myself fortunate that I was able to get to know him; few do, though he has many acquaintances. It took me a long time, for he is a retiring person and hates unnecessary publicity, though it is always being forced on him. I heard a good deal of him before I saw him first, and I cannot say that I was particularly attracted by the report. Public characters seldom are presented in their true light. It was just by accident that I did meet him in the end, and even then it was a long time before I knew him well. Our first conversations were just snatches, and usually rudely broken off by over officious friends butting in and drawing him away to some big reception or public meeting. He would go with a patient smile, but I could always see that he would rather have stayed.

By and by our acquaintance thickened into friendship, and we had many an intimate talk. He opened up for me a whole new world of life. He is constantly being drawn away to address big meetings of people, but sometimes before the meeting he would slip out and spend the hour with me on the hillside or in my study, and let the meeting proceed without his presence. Those were wonderful hours. Now we are firm friends. A short while ago he came to live with me. We spend a great deal of time together, go for long walks together, work together, play together, and we never get tired of each other.

He is really the best friend I have, but I don't keep him all to myself. I don't go around talking about him either; he hates that. I just invite people into our room where they chat with him and get to know him. And do you know they always make friends. I have never known him to fail. I don't know why people insist on talking about him so much and giving him fine clothes and parading him before the public as though he were a king. He is not a king; he is just a Jewish carpenter—and my friend.

R. B. M.

THE days of the founders of new religions and of the great reformers of the old are probably over. The social group as a whole must feel its way together and work out its new solutions. The task must be performed collectively. This, of course, will be done under the guidance of its leaders; but these leaders will be many and will work in collaboration with one another. It follows that Christendom will very likely never again have the unity of belief that once it had. But this independence and divergence of individual thinking need not prevent a very real religious unity.

JAMES BISSETT PRATT.

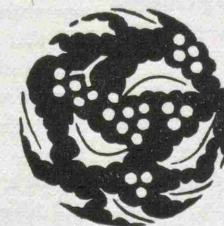
THE age in which we are now living has been accused of destroying the religions in which human life had found its logic, its rules of conduct, its safe and sound stability. But the indictment cannot stand. In doing what it has done, our age has done something it could not help doing. In the process of dismantling religion as mythology, it was inevitable that many valuable pieces of the old structures should fall to the ground; precious thoughts and priceless virtues which had become attached to mythological dogmas. But these our time has made haste to gather up again; and it has worked them back, cleaned, repolished, restored, into a stronger, firmer, vaster, more noble edifice. It will be the glory of our generation if we shall succeed in founding a human religion, a pure faith, a pure

religious spirit, born of thought, but of a thought embodying life and fertile of new life.

A human religion I say, but not the "religion of humanity." The latter was founded long ago by the supernational mythologies of universal redemption which succeeded the religions of races, tribes, peoples, or nations and which—Christianity supreme among them—tried to be Catholic or world-wide. The human religion I mean must be anti-mythological and free from all remnants of naturalism and utilitarianism. It must be pure religion, a religion which, placing God in the hearts of men, will be not only humanity's religion but man's religion.

At the present time we are witnessing the travail that presages the birth of such a religion; and in those painful throes we all are having our share. The old mythologies vigorously reassert themselves from time to time; and they provoke anew the negative, irreligious criticism which fulfilled so necessary a function in the past. Against the sterility and the violence and the prejudice of the mythologies rise the sterility, the violence and the prejudice of the improvised anti-religions of a rationalistic, intellectualistic, or utilitarian character. But in spite of everything man will have his God again, the God that is worthy of man's new estate. For without religion, that is to say, without poetry, without heroism, without a consciousness of universality, without harmony, without the aristocratic spirit, no society can endure.

BENEDETTO CROCE.
Trans. Arthur Livingston.





BOOK REVIEWS



IDEALS AND REALITIES IN EUROPE, *by*
MARGARET WRONG, M.A. (London S.C.M.).

IT IS very difficult for the average reader to gain from his perusal of press and periodicals any adequate idea of affairs in Europe. He is conscious that the information which is doled out to him is often tainted with the partisan viewpoint, censored and distorted till it becomes uninteresting and unconvincing. The Canadian Student will give liberally to any good cause if he can be made to see that it is a good cause, and that actual need exists. He likes to have definite information convincingly presented to him, by people who know what they are talking about. Information of this sort has at last been set forth in a little book of one hundred and forty-five pages, recently published by the British Student Movement, written by Miss Wrong, who has been for the past few years travelling secretary of the World Student Christian Federation.

Miss Wrong is unusually competent to deal with her subject, since she has the double advantage of a thorough knowledge of the history of Europe before the war, and actual contact with conditions in most countries, and particularly the newly formed states, since 1921. Her work has brought her into close touch with great numbers of people of different nationalities and especially with the student.

She has been most successful in setting forth their attitude of mind, the present political and economic situation, and the apparent outlook for the future. Her aim, as expressed in the preface, is to "outline some of the destructive and creative forces at work, and to show the relation of the individual to these forces both as victim and as explorer of a new way."

The work opens with a brief but adequate survey of the state of Europe before the war—geographic, political and economic—showing how greed, distrust and competition made co-operation impossible and set the stage for war. Then follows the picture of post-war Europe with its seething mass of problems arising from disappointment, divided states and peoples, economic distress, etc. Miss Wrong gives a vivid picture of life within the states themselves, showing the bitterness, race hatred and physical suffering of the people. There are numerous individual examples which impress the reader by the hopeful, courageous state of mind which persists in spite of almost impossible odds.

The League of Nations as a means to international co-operation, the obstacles it has encountered and the work it has so far accomplished are thoroughly discussed, and then there is a fine chapter dealing with the need of co-operation of the peoples themselves. Here the broadening, humanizing effort of such factors as Relief Missions organized by different countries, the European Student Relief, the Mission of the Society of Friends, etc., is stressed. Finally, and above all, Miss Wrong expresses the conviction that in spite of the lack of religious unity in Europe, there is, inside and outside the church, a relief that the source of life is spiritual and not mechanical, and that there are values which are eternal and universal, overstepping political and racial frontiers and barriers raised by institutions. Hope for the future of Europe lies in the "fearless testing of the material world by spiritual values," and this can be accomplished only by "willingness on the part of individuals to lose their lives for the sake of life."

E. R. B.

"REBUILDING EUROPE"

by RUTH ROUSE (London S.C.M.).

MOST OF US, some probably more than others, will welcome this attractive and interesting book. It is full of vivid word pictures of European and Asiatic students during the period 1920-1924. Over here, in Canadian Universities, we may have heard the call of the E. S. R., but little did we realize how imperative was the need. Nor had we caught the vision of student helping student the world over that the intellectual life of our own and the succeeding generation might not perish. Had we known then the magnitude of the work for which those letters, E.S.R., stood, how much more we might have done.

Miss Rouse offers to those who did not understand the cause of European Student relief (and there were many such, some through ignorance, some through prejudice and narrowness) a veritable treasure trove of information, told vividly, as only an eye witness could tell it. In her preface she tells us that her book is not a history of the European student relief movement, but simply a series of word pictures. It may not be full of dates and facts, but it is a glowing story of adventure and accomplishment. What could be truer history? For those, however, who are satisfied only by concrete comfort, she gives, in her appendices, a chronological list of events during the four years covered by her book.

A map at the front, which shows Geneva as the hub of a great wheel from which radiate myriad spokes, indicating whence the help came and whither it went, is suggestive and instructive. The plentiful illustrations are actual photographs of students and student activities, and are, therefore, of more than usual interest.

And the story itself! The picture drawn by Miss Rouse of want, disease and pestilence throughout Europe in the year 1920, is one of utter hopelessness for the future. Europe where 19 billions had been spent on destruction, where 10 million of the young and strong were buried, and at least 20 million left wounded or unfit! How to rebuild these ruins? Obviously only through the help of other more fortunate countries. Hence innumerable societies sprang up for saving the children, the widows, the aged and infirm; but of saving the

student youth, the future builders of nations, no one seemed to think until the World Student Christian Federation founded the European Student Relief, on the conviction that in 1920 the only hope for the European student was that the other half of the student world would hear his cry and come to his aid. The W.S.C.F. therefore sent out the cry for help, and in this book we may read the story of the answer.

The mighty problem of how to feed the minds, as well as the bodies of hungry and homeless students, and of thus keeping alive university life, is forcibly depicted by Miss Rouse. From Geneva students of nineteen countries were fed, clothed and provided with books—and thus had to be done through the medium of 27 different currencies and to the satisfaction of 42 different contributing countries. A mathematical as well as a charitable feat!

One of the most interesting parts of the book is the story of student co-operative self-help inaugurated in Germany by the Wirtschaftshilfe, or Economic Self-Help Organization, by which students worked in mines, on railroads or on the streets in order to pay for books and tuition. We were not helping those who were not trying to help themselves. To facilitate the employment of these students, Trade Unions waived regulations and rules, thereby displaying a sense of national unity and a breadth of outlook not too common among such organizations in Anglo-Saxon countries. It is interesting to note that in the spring of this year German students refunded 10,000 dollars as the first installment on their debt to the E.S.R.

It is encouraging to read of the force for international good will in the comradeship of refugee students of various nationalities, of the wonderful spirit displayed at the student conferences of Turnov, Parad, Elmau and Gex, where the youth of 37 nationalities met together to discuss international problems of the future.

To all who believe in the spirit of E.S.R., or International Student Service, as it is now called, this book cannot help but appeal. To those who do not believe in the spirit of union and comradeship among students as an indispensable necessity to world peace, we can do no better than recommend "Rebuilding Europe."

MARYON PEARSON.

WITH THE MOVEMENT

THE EDITORIAL BOARD regrets the late issue of the November magazine, but can take no better shelter than behind that ancient excuse—the printer. Full ten days were to his fault. This month we are nearer time, and hope it may be always so.

The Council of Ontario and Quebec presidents meeting at Kingston, November 21st to 22nd, including University of Western Ontario, Queen's, McGill and Macdonald, and most of the Toronto colleges, passed in review the work of the Movement. An extremely interesting discussion on "What is the main purpose of the Student Christian Movement?" led into frank opinions about study. There seemed to be no doubt that little or nothing happens in the study group unless individual members do careful preparation. Plans for the 1926 Central Conference were projected and left in the hands of a committee composed of Crocker, of Queen's, Winnifred Service and "Chuck" Stewart, of Toronto, and Madeline De Blois and Leslie Copland, of McGill. *The Canadian Student* also received some attention, but the staff has not been increased to cope with the influx of articles. The presence of the secretaries and Mr. Cockin helped the discussions. The hospitality of Queen's people was an outstanding contribution to a good meeting.

AS THEY return to England from their all too short visit in Toronto, Mr. and Mrs. Cockin hope to spend Sunday, December 13th, at Dalhousie University. It is hardly credible that their time with us is passed. Many of us, as they do themselves, regret that they were not able to visit Western Canada. Mr. and Mrs. Cockin have been much appreciated by the students in Toronto, and in two days spent at McGill they made many friends. We are much in the debt of the British S.C.M. for releasing them to the Canadian Movement for this autumn term. As they leave us, we are saying merely 'au revoir.'

CONRAD HOFFMAN, JR., Executive Secretary of the International Student Service Committee of W.S.C.F., spent the first three days of the month at the University of Toronto. Mr. Hoffman has helped many to see clearly the tremendous possibilities of creating friendships even among the students of countries where the whole outlook is against such friendship. The Student Movement at Toronto hopes to raise at least \$1,000 toward the Friendship Fund.

FRED. BROWN, of Australia and Oberlin, writes that the 'gods are good', and he will attend the Saskatoon conference. Friends in the West will also be glad to hear of it.

LOYD MUNRO, of Dalhousie and McGill, is now on the staff of M. A. C. and is leading a study group there.

ERROL AMARON visited the Maritime Council at Thanksgiving and spent a day each in Dalhousie and Acadia. He surprised himself as a public speaker before the largest S.C.M. Meeting ever held at Acadia.

INTEREST in the Chinese situation does not flag. Report comes of groups in many colleges, and demands for information and speakers on "China" are insistent. Dr. Harry F. Ward, of New York, aroused much comment in his speeches in Montreal recently. Fletcher Brockman, senior secretary of the Y.M.C.A. in China, has painted a vivid picture for groups in many eastern cities this fall. Chinese students are being urged to speak by college societies and historical clubs. Periodicals with a "social" interest are unearthing all sorts of weird and obscure literature on the subject. There is "news of China" everywhere but in the daily papers.

MR. J. E. K. AGGREY, our old friend of the National Conference, has just completed another trip through Africa at the head of an educational commission. "No one has ever gripped the people of Africa as has Dr. Aggrey," says a missionary from Rhodesia. He spoke to as many as 25,000 people at one time. They insisted on hearing him again, and then an eager crowd would not let him escape. Christian and non-Christian alike come to hear him. In Kenya Colony the Governor himself thanked him publicly for his message to the people.

ED. CUNNINGHAM'S letter from Mt. Omei has news for us. "This summer we have been having our 'Jesus Study Group' as of yore, and its worthwhileness does not decrease, but grows apace. As you may have heard, some of the bunch have been engaged in the translation of 'Jesus in the Records' into Chinese. Earl Willmott is the prime mover. At present he is working away with a couple of teachers going over all the draft material turned in by other members of the group. With the assistance of Dr. Leslie Kilborn, they should have the book pretty well in shape by the end of the month. The first edition will no doubt have a limited distribution, but it will meet a need among us who wish to pass on some of the good things that can be reaped from a study of Jesus."

THE MOVEMENT thrives in all parts of the world. A new general secretary for Canada, Douglas Ernest Clarke, arrived on November 15th. In Formosa a few weeks old girl smiles up to remind Hugh MacMillan of the seriousness of life. To the household of the Mukerji's in Calcutta has been added a daughter. We congratulate them all and rejoice with them.

HELEN NICHOL is spending the first weekend in December at the University of Alberta as the guest of Olive Haw and the Student Movement there.

U.B.C. MOVEMENT is now the proud possessor of a room in the new buildings. The study groups, forums, executives and S.C.M'-ers in general will be glad to advance beyond the peripatetic stage.

THE CHRISTMAS MEETING of the General Committee of the S.C.M. of Canada will be held at the University of Saskatchewan, Saskatoon, January 2nd and 3rd, 1926.

THE WESTERN CONFERENCE

THE printed folders for a conference of students of the four Western provinces in Saskatoon, December 26th to January 2nd, 1926, have been sent out. It was hoped that such a conference may achieve two things:

1. It would offer an opportunity to a representative group of students to consider the relationship of vital Christianity to the problems of life.

2. Through it a larger group of Western students might come to know and share in the Student Christian Movement of Canada.

The following divisions are found in the programme:

- (a) Group Study—for two hours of each morning under the ablest possible leadership.
- (b) National and World Outlook—Special care has been given to discover speakers of wide knowledge and experience of such problems as: "The Present Crisis in China and its International Implications," "The West and Our National Heritage."
- (c) Christianity—Its Relation to Life.
- (d) Our Task in College.
- (e) Corporate Worship.

Leaders and speakers who are known to be coming include: Dr. Walter C. Murray, Prof. W. P. Thompson, Prof. J. A. Sharrard, from University of Saskatchewan; Prof. E. W. Sheldon, E. A. Corbett, Miss Edith Deadman, from University of Alberta; Prof. R. C. Wallace, Prof. R. F. Argue, from Manitoba; also Dr. H. B. Sharman, Fred. Brown, of Australia; Mr. W. ("Bill") Simpson, of New York; a representative of China not yet decided, and the National Secretaries.

CORRESPONDENCE

The CANADIAN STUDENT invites the expression of opinion on matter appearing in the magazine or on other subjects of interest to our readers.

THE TALE GOES ON AND ON

The Editor,
CANADIAN STUDENT.

Dear Sir,

The article in the October issue of *The Canadian Student* under the heading "The Tale of a Tub" leaves me cold. Its obvious naivete makes it the harder for one to address strong comments toward it. I have no quarrel with the author, but rather with the sentiment expressed. After all, the writer appears to be new to the student circle and it is interesting that she should describe her impressions as she does. No doubt if she continues in the Movement her convictions will deepen, and, we hope, will pass the "bun-fight" stage.

But Mr. Editor, I want to point out that the very things which seem to characterise the Movement in the eyes of the writer are precisely those which keep many outside and occasionally invite a few bricks to boot. No little conversation with various individuals has evoked not unwarranted criticism of the "tea-party" policy which sometimes distinguishes the S.C.M. Some of us who are in the Movement believe and have found that a sincere study of the life of Jesus IS creative in people and absolutely compels them to realize more and more their potentialities. The significance of this does not break through at tea parties and bun fights. The S.C.M. must be presented to students in such a way as to convince the most he-man-conscious individual and the "intellectual," both of whom consider the Movement something for theologs and women. It is the opportunity for constant discovery of the Jesus' way of life. It is an attempt (which fails more often from poor psychology than from lack of faith) to help others to see life steadily and whole.

Let us try to make the S.C.M., not a social club for imbibing tea and raising money, but a

fellowship for every student, a fellowship which finds something real and of value and inspiration in Jesus and in life itself.

Yours sincerely,
C. M. STEWART.

BILL RISES AGAIN

The Editor of Canadian Student

FIRST the *Canadian Student* with a heap of good news (read from cover to cover), and now a card with Muskoka pines and waters on one side and a postal stamp "Saskatoon" on the other—wonder of wonders!—all to remind me of those great days two years ago when I was a guest of the S.C.M. and rode around the country having a good time! I do not forget them; perhaps you do not either. Another "Bill" has apparently captivated folk, not by oar-breaking but by wiser and less costly means. In any case I claim a place in your hearts, and the ten names on that card—yes, the girls too!—are dear to me.

It is good to know that you go steadily forward. I watch with great interest the developments in the field of Church Union and trust the student movers to do their bit. If they fall down things will be bad indeed. Canada has had more than her share of attention, but it is because she has ventured on unusual things—and can be a model for others to follow, at least in this regard.

As for our little S.C.M. here, we set a new standard this year by opening with two new inspiring October "retreats"; one for the Cracow and one for the Warsaw unions. Nearly 50 took part in them, and the witness of one and all was a most enthusiastic one. In the forest of Bewinoff near Warsaw we were guests of one of our members and her parents in an ideal summer home—a more delightful place to meet for spiritual upbuilding I never saw.

As a result, we have in Warsaw four circles at work, one on Fosdick, one on Foerster, one on the

life of St. Paul, and a small group on life problems. In Cracow they are studying Drummond's "The Greatest Thing In The World," and in the Social study circle "Jesus Christ and the Social Problem," by Peabody, in Polish translation. So you see there is something doing. We published two fine numbers of a Quarterly, *Our Paths*, in the spring and summer, but hard times will not allow us to go on with it at present; a pity, for it attracted a lot of attention.

The Polish Y.M.C.A. makes steady progress. In Cracow our grand new building is half way up to the roof; it will stand over the winter and be finished off next spring, to be opened in the fall. That will be a landmark in more ways than one. In Warsaw we feel especially the pinch of hard times, but the interest in all we do grows. The job is as big as imagination can make it.

And Bill—what is he doing? Well, a little of everything; at the moment putting the finishing touches to a Doctor's thesis, which may take him over the top—and may not; also preparing materials for the World's Y.M.C.A. Conference next August, which may take him to Helsingfors—and may not, hunting up new and rich friends for the Association in Poland, which may bring in some shekels—and may not.

There is nothing like living! Some of us are beginning to get old, so we rejoice at knowing how the younger ones are doing. "Larry" ought to be able to keep the League on the rails. The Formosa bunch may manage to keep the Pacific pacific. As for some of us in dear old Europe, we're not downhearted either! Things are on the mend, and no little troubles on the Strumitzta, or attacks on Mussolini, "nor any other creature" can stop them. Stockholm has helped, so has Locarno. So have Wolfville and Kenora and Elgin House. Keep right on, says Bill (Rose).

Balpur, Bengal, India.

SANTINIKETAN

The Editor,
CANADIAN STUDENT.

It is exactly one year since I had the most joyous fellowship with you all at Elgin House.

Those were some of the happiest days of my time abroad, and the pleasant memories and friendships formed shall abide with me for all time. I feel a strong desire to be with you all again this year; and yet I feel thankful to be back in India while you all are in Canada because of the consciousness and assurance that I have of your presence with me here as I am sure you know that my heart is with you. For you understand me with the understanding of human sympathy and love, as I do you.

I got back home on June 19th, and was delighted to see my parents, brothers and sisters all in health and extremely excited on the prodigal's return after six years' absence. What surprised them most was that I had not changed much in my manners and way of living in spite of the long stay. I wore pure "Khaddar," Indian dress, as a follower of Gandhi, and discarded the European costume, which shocked the missionaries and gained approval in the eyes of non-Christians. wherever I went I addressed no meetings and this created quite a stir.

For a month I enjoyed dinners and fetes and had a delightful time with the whole family circle and friends. After that slowly I had to expound my philosophy of life and my attitude towards my future work. I am condemned as a Gandhi-ite and revolutionary nationalist. True to the Gospel, the authorities of the organized church are lined up and attempt to put me out of the "Synagogue." But the thinking young students, Christian and non-Christian, have received me with open arms and hailed me as their leader.

As you see, I am writing this letter from Santiniketan, Tagore's school at Balpur. I came here five days ago from Calcutta in obedience to an urgent letter from Mr. C. F. Andrews. I am having a wonderful time in this delightful place. Balpur is situated about a hundred miles from Calcutta. It is far away from the distractions of the city, yet within easy reach to be in touch with all the movements that go on. Mr. Andrews was at the station to receive me. He was dressed as a Bengalee in dhati and shirt and slippers on his feet. It was a real joy to see him in person. He received me with the warmth of his whole being. His personality is radiant and makes one think most naturally of God. Such a saintly face he has!

As we walked up to the school he pointed out the "favourite walks" of the Poet, the spot he likes best for writing poetry, the house he lives in. As he took me round all these places I felt as Moses did: "The place whereon thou standest is holy ground."

Truly these spots are sanctified by the prayers of saintly men who lived in the presence of God. Maharshi Devendranath Tagore came on one of his journeys, and he was so deeply attracted to the place that he pitched his tent under three trees which were the only trees to be seen there, and for weeks at a time he would live there spending his time in meditation and prayer. These trees are still to be seen with the wide open plain stretching out before them to the Western horizon, and on the marble slab which marks the place of his meditation can be seen the words which filled his mind as the Maharshi meditated upon God:

*He is the repose of my life,
the joy of my heart,
the peace of my spirit.*

He called this place Santiniketan, the abode of peace. Truly this place is an abode of peace. It is sheer joy to walk through the gardens and groves in the dawn and on moonlight nights. The place rings with music and laughter.

But I have wandered away from Mr. Andrews. We spend at least four hours every day discussing present-day problems. Those who have read his book: "Christ and Labour," need no description of the man or his chief interest in life. To him truly "To live is Christ." He works incessantly and is never ruffled, always cheerful, and he is actually worshipped by the boys in the school. It is a tragedy that a man like Mr. Andrews, who commands the confidence and love of Indians, irrespective of caste or creed, is so much misunderstood by his own countrymen and Western missionaries. Some consider him "an enemy of the Cross" and have actually written him to that effect. He was greatly heartened when I told him how very much his book was appreciated in Canada, Japan and China.

While we were thus enjoying rich fellowship in work and play there came an urgent message from the Poet Rabindranath Tagore asking Mr.

Andrews to accompany him to Cocanada, in South India, where he was going to attend a musical festival held under the patronage of the Maha Rajah of Pithapuram. Mr. Andrews had to pack up and go immediately. Words cannot describe the deep concern and real understanding love that exist between these two great souls. They have truly become like children and they visibly live in the realm of God.

A few hours before leaving he opened his heart to me and said: "Ariam, I wish you could come and stay with me next term, when we can discuss leisurely the various problems. You would take a place on the staff of the College in an honorary capacity. The subjects to teach are Economics, Psychology and Bible."

I could do only one thing under the circumstances and that was to accept Mr. Andrew's offer. Mr. Andrews was overjoyed when I told him I had made up my mind to come back and stay until the middle of December.

So Mr. Andrews left me at Balpur, and I decided to attend the General Assembly of the South India United Church at Salem, as I was appointed delegate of the Church in Ceylon. After the Assembly I go to the "Ashram" at Tiruppaltar, about which I told so many of you at Elgin House and in the colleges; and I return to Santiniketan on October 20th when the school reopens, to be there for certain till December 10th. After that, as Andrews said: "We shall follow the guidance of God, step by step." Truly this is joyous life of adventure.

With best wishes and kindest regards to all my friends in Canada.

Every yours,

ARIAM (WILLIAMS).

IT DOES HAPPEN

"This letter with it's enclosure (a cheque for \$50.00), is just to let you know that there is one member of the Student Christian Movement in * * * who is eternally thankful that she came under the influence of that inspiring fellowship while at college. The vision of real life obtained in the S.C.M. makes the darker spots in

teaching easier to bear and makes the bright spots simply radiant.

My love and prayers are with the Movement, though I am rather out of touch with its activities at present.

Sincerely,

There is no more hopeful sign for the future of the Movement than the increasing number of gifts with this meaning. By these its work is made possible.

STUDENT FRIENDSHIP

FIVE YEARS AGO, when the students of the war-stricken countries of Europe were in dire need of help, the World's Student Christian Federation inaugurated the European Student Relief Fund. The purpose was to preserve the lives of thousands of students and thus the intellectual life of Europe, until the co-operative schemes set on foot could become self-supporting. E.S.R. showed a new spirit to the world; wherever it has gone, hate, bitterness and despair have yielded to trust, good-will and hope. It was built on love and love has been its legacy. That legacy all wish to see preserved.

There is no longer the need of relief, but there is still room for co-operation. The spirit of the E.S.R. is to be perpetuated by the International Student Service. Friendship in its broadest sense is the aim of the I.S.S. which was endorsed at the international student gathering at Gex last August. The feeling of the students at Gex towards the I.S.S. is exemplified in an extract from a letter from "Bunny."

"The I.S.S. is building up an international understanding, an international sympathy, and a great love between individuals which no paper propaganda, no lies can ever destroy. It is one of the greatest preventatives of the next war that we have.

"I was glad Canada had shared in that work. I am still more glad that we are going to continue sharing. We are trustees of the world's peace, we, the students of the world. Other students still

need our help. Let us be faithful to our trust and give."

The funds of the I.S.S. will always be available for help to students in emergency situations, such as those caused by the earthquake in Japan or the present drought in South Africa. The first cheque came from the German Students' Economic Organization, now financially independent, and further instalments of this debt of gratitude have been promised for the immediate future.

The budget decided upon for the I.S.S. for 1925-6 is \$55,000 allocated in the main for the development of self-help schemes throughout the world, for relief to students in cases of sudden emergency, for international student gatherings, and for literature. Toward this budget it is hoped that Canada will contribute \$1,490.

Canada has been a regular contributor to the funds of the World's Student Christian Federation. Last year the Canadian Movement decided to take as its share the support of Mr. A. Nikitin, a special Federation secretary in Bulgaria. The Bulgarian S.C.M. is very largely his creation, and is thus our special charge, for, but for the support of the Canadian students, his work could not be continued. The General Committee at Elgin House this year decided to continue for another year to support Mr. Nikitin's work in Bulgaria as our Federation contribution. The amount needed is \$1,600.

Our total Student Friendship Fund Objective for 1925-6 is thus \$3,000. Let every cent carry with it a message of our growing friendship for the students of all the world!

Make cheques payable to Student Friendship Fund, and send the same to the Student Christian Movement, 76 Avenue Road, Toronto 5, Ontario.

FROM MR. NIKITIN

THE MOVEMENT is still in the stage of formation. We have not an office in a proper sense of the word. We have not a staff. I am only a man who can give full time for the work. I am always afraid to sacrifice spiritual work to the external part of our activity. It is why my correspondence is not developed satisfactory.

This year we begin with great hope. The best students of the University take part in our Associa-

tion. Some of them are the members of the Committee of the National Bulgarian Student Union and form the link between the whole student body and our Association.

Please give our brotherly feelings to the Canadian friends. The Bulgarian students deeply appreciate the generous help of the Canadians. These last take part in a very important process of the formation of a new generation in Bulgaria, which means for the country itself as well as for the Balkan states, the decisive influence on the history of nearest decades.

THE S. C. M. IN GENEVA

IT is now almost a year since I was introduced to the S.C.M. in its International home, and I must confess that I was disappointed. Not that Miss Wrong and M. Henriod were less their genial selves than when I had met them in conferences, but the building—such an ordinary little bit of a place—and the W.S.C.F. and E.S.R. headquarters occupied only the two top floors, or attic, at that. You know how it is, one living at the end of the earth always expects the headquarters of anything, even of a Christian Student Movement, to be housed at least in importance if not in splendour.

But Geneva has been a series of disappointments in this respect. Even the secretariat of the League and of the Labour office and the Assembly itself occupy plain, ordinary, and even temporary buildings; one in a former hotel, another in a boys' school, the third in a hall, so small that admission to the general public is almost impossible save to a very select few who are high up in the world of affairs or who have "friends." Time, no doubt, will change this for the League and the International Labour Office, but I doubt if the Student Movement headquarters ever will acquire much in the way of material importance. Nor, after due deliberation, do I consider this to be regretted, but rather to be approved of and admitted, for it does mean that all the limited funds at the disposal of the Student Movement are being expended, not on office rent and overhead, but on the essentials of real work among students, and,

personally, I have acquired an increased appreciation of the worth of the secretaries and staff of the W.S.C.F. and E.S.R. since I have come to realize the meagre salaries on which they exist, the offices which they occupy, and the really valuable work that they are doing.

My second contact with Geneva was last May, when I attended the executive meeting of the committee in charge of European Student Relief. At it, I began to realize fully the importance of Geneva as an international centre and the part that students might and must play in real internationalism. But there are difficulties in the way of this, among them the waste of effort and actual danger inherent in a division of the same student work among a number of competing organizations. To my mind the two biggest problems facing any student organization at present are: first, to obtain the interest of students and keep it, and, second, to bring about real active co-operation between the various movements at work among students.

My third contact with the W.S.C.F. gave me some conception of its importance. A few days ago it gave a dinner at the Hotel Metropole, for the privilege of attending which one paid eight francs, Swiss (sans vin.) The biggest dining room in the hotel was packed, and many were turned away. While the dinner was quite good I may say it was not the dinner itself that caused the demand for tickets but the presence of a number of the world's ablest statesmen, who spoke on the importance of students, and of the part the W.S.C.F. could play, in the international sphere.

I will not attempt to give here a summary of the speeches, save to say that Benes, Viscount Cecil, Nitobi, Albert Thomas and Hoffman, each in his own way told of the possibilities that lay before the students of to-day and of the contribution of the W.S.C.F. toward the realization of these possibilities. As a Canadian, may I be permitted a small measure of pride in the fact that practically all of the Canadian delegation, including Senator Dandurand, the Hon. Phillippe Roy, Jean Desy, and Dr. Riddell were at the dinner.

"LARRY MAC."

JUST SOMETHING HONEST

ALLISON FITZRANDOLPH

WHAT do I find in the Student Movement? While a school-girl I was actively interested in our C.G.I.T. group. At one of the camps in a discussion group much the same as our study groups here at Dalhousie I found what I had unconsciously been looking for and realized that I wanted more. It was a frank discussion of Jesus and his work and what it meant to "know God." Those hours flew on wings, and soon we found ourselves at home again trying to live what we had learned. That was just the start, and later when told of Study Groups in College I joined up, thinking they might be like those other groups.

The frankness of those friendly discussions and the growing assurance within myself, though it was some time before I felt any assurance whatever, that here was an answer to my unrest, gave me a new picture of Jesus and the one whom he called Father, but not until I had gone back to the beginning and questioned and reasoned things out very fairly for myself. Jesus became real, and no longer a faraway character in a story. That study group has meant more to me than anything else I have found in college. I was not at all unlike the other girls around me; they too were perplexed, even doubters, and it wasn't so terribly wicked after all.

This time of doubt and uncertainty seems inevitable; a time when everything appears in a muddle, and we ask ourselves: "What is it all about anyway?—what is the world, what are we, what is God?" Such a time comes when, growing out of our childish beliefs, we begin to think for ourselves, to find how big the world is, and how insignificant we, as individuals, are among its millions of people. How comforting to find that we are not alone in this puzzled baffled state, that the friend at our elbow feels the same, and how important to make an honest scientific study of God parallel with other scientific thought and research. This is what our Study Groups offer. But shall we stop here? How far do thoughts, or words, alone lead unless translated into action?

After the earnest inquiry, what then? . . .
*"Beauty of action, thought and life and spirit,
 He, who has given us all loveliness,
 Can but desire the best that lies within us,
 And shall we give him less?"*

ABOUT STUDY GROUPS

WILFRED BYERS

MY first acquaintance with this study was two years ago at Dalhousie University. Our leader, a Professor of Physics, used the same method in teaching that subject as in Physics. For example, his quiet "Why?" required as direct and logical an answer in the history of Jesus as in the mysteries of percentage accuracy. From that first group my room-mate and I went on to another the next year, and I found it even more interesting and worth while.

To the student who is not an athlete, nor a dancer, nor has the talent of being at home in a crowd, there comes a real gap in his meeting with other students. A good study group can help this type of student to find what he needs most; real friendship. Here he has the opportunity to exchange opinions on the most important and interesting subjects with other men who are his equals and have a common earnestness.

These groups aid in developing the intellect and in learning the best method of studying any subject. This is done by the rule of attacking the problem without prejudice, by going back to the best authorities, by searching for what is essential and what is secondary, and by the individual effort needed. When each member is ready to stop another who uses words of vague meaning or who jumps at a conclusion, the student gains a new respect for concrete words and phrases that have real significance.

We had our meetings in the Physics class-room, near a table loaded with lanterns, electro-magnets and smaller demonstration apparatus. These surroundings always gave me a feeling that here we were bringing religion into our everyday life.

The question has been raised whether or not this study destroys the old faith which students

had before they came to college. This at least is true, that when a man begins this study with clear religious ideas of his own or with beliefs that he has passively accepted, he is certain to have some serious thinking or a deep mental conflict. Religion is not to be treated lightly, and attending such a class without careful preparation is like playing with stumping powder. I believe, however, that if anyone studies the life of Jesus earnestly, and acts on the truth he finds that person will come to a real understanding of Jesus' life and teaching that will have a great influence on his life.

The acid test of the value of this method is, of course, whether the student follows what he finds to be true or not. If he neglects or refuses to follow the truth the failure is due to him, and not to the system of study. Besides, if members of groups are crooked or unclean the reputation of the study will be injured and those honestly searching for God will be hindered. With this in mind, the future becomes a challenge to use the intellect in careful study and to put faithful following of the truth in the first place.

CONTRIBUTORS

MISS A. VIBERT DOUGLAS is a lecturer in physics and graduate student at McGill. Her article "Other Little Ships," in the September Atlantic Monthly, is a glimpse into her favorite study of Astronomy. SYLVIA THRUPP, of U.B.C., was last year's president of S.C.M. there. She says what she has written is "trash," but we have printed it.

BUNNY is here again. To those who do not know him he cannot be told—but he does write as he is. RAYMOND GUSHUE—a "lawyer-man of Dalhousie"—is setting up a practice in St. Johns, Newfoundland. E. G. MAXWELL, of Dalhousie and McGill, was long a member of the General Committee. He is now working in Montreal and leading study groups in various places.

HUGH McMILLAN, the one time S.V.M. Secretary, keeps up a strong bond with many friends in Canada from far-off Formosa.

JACK IRVING is a senior at Victoria and this year's Editor of *Acta Victoriana*.

ALLISON FITZRANDOLPH is a student at Dalhousie.

EVELYN SNYDER, and VICTOR ROSE of McGill contribute the decorations.

WILFRED BYERS is a student at Dalhousie.

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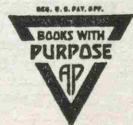
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Hydrogen - Universal Element

—Question Marks in Our Skies—

by

A. VIBERT DOUGLAS

Whence came hydrogen and why is it the basic element? How were other substances formed? Was there a single moment of creation? Is there a continuous creation of matter? Here are some of the challenging questions posed for our scientists as they plumb the mysteries of interstellar space.

Hydrogen is the lightest and simplest of all the elements but only recently has it been recognized as the most abundant element in the universe. It has long been of basic interest to chemists and physicists. During the last twenty-five years it has become of increasing importance to astronomers. Now, with the rapid advance of knowledge in nuclear physics, it has suddenly loomed large on the retinas of defence research scientists, and in consequence of government decisions in more than one country resulting in the successful manufacture of hydrogen bombs of immense destructive power, hydrogen has acquired a new significance and aroused considerable curiosity in the minds of the general public.

In the language of science, hydrogen has atomic number 1, atomic weight 1.0078 (on the scale relative to oxygen 16); it is composed of the two fundamental units of matter, one electron and one proton, which carry equal and opposite electric charge but are very unequal in their mass, the proton or nucleus of the hydrogen atom being about 1836 times more massive than the electron. These facts—atomicity itself, the dissimilarity of proton and electron in mass, the overwhelming preponderance of hydrogen in the vastness of the universe—are mysteries challenging the keenest thinking of scientists and awakening in the thoughtful mind the deep awe which Goethe regarded as man's loftiest experience.

Curiosity about this substance, subsequently called hydrogen (generator of water), appears to date at least as far back as Paracelsus in the 16th century. Its combustibility when mixed with air was known to Turgnet de Mayenne, to Robert Boyle and to Lemery in the 17th century, but it remained for Henry Cavendish to show in 1766 that this gas was liberated when dilute sulphuric or hydrochloric acid acted upon various metals. Cavendish called it "inflammable air", and in 1781 he was able to prove that when it burned in air or in oxygen only water was produced.

Hydrogen is almost ubiquitous in the physical world. Of the three atoms forming a molecule of water, two are hydrogen; and hydrogen is a constituent of every acid. It is present in almost all rocks, either in chemical combination as hydroxyl or as water trapped within the rock or held as water of crystallization. The Earth's crust contains about one per cent of hydrogen by mass and since these atoms are so light, this really means that sixteen per cent of the atoms forming the crust or "lithosphere" are hydrogen. All living things, vegetable and animal, are largely composed of hydrocarbons and water and hence are made up mainly of hydrogen. Sir Arthur Shipley, a former Master of Christ's College, Cambridge, once remarked, "Even the Archbishop of Canterbury is 85% water!" From this it follows that every human body contains far more hydrogen atoms than the sum total of its atoms of oxygen, carbon, calcium, magnesium, iron and other elements of which it is composed. Our bodies are therefore not only of the Earth earthy, they are akin to the 'stuff' of which the sun and other stars are made, for the main difference in composition between a planet like the Earth and a star is the vastly greater preponderance of hydrogen in a star.

The Earth and other planets and their satellites, the asteroids, the comets and the meteors are not typical aggregations of matter in the universe for the very reason that they have lost most of their hydrogen into space. This is because they are not sufficiently massive bodies to have been able to retain this lightest gas by gravitational attraction. Planets, even though they may be more numerous than we know, can represent a very small proportion of the 'stuff' of the universe. Our sun is over 300,000 times more massive than the Earth,

and all the non-selfluminous bodies of the solar system do not add up in total mass to one seven-hundredth of the mass of the sun. Hence stars, these vast spheres of stupendously hot gases, and not planets, are typical of the matter of the universe.

Next in importance to hydrogen in the composition of a star is helium. All the heavier elements of the chemist's table—lithium, beryllium, boron, carbon, nitrogen, oxygen and so on up to uranium which is number 92 at the end of the list of natural elements—comprise perhaps not more than one percent of the material content of a star like our sun. Cosmologists have sound reasons for believing that this is true of stars in general, not only of the hundred thousand million stars in our own galaxy or Milky Way system, but of the stars in the millions of other galaxies comparable to our own; and true also of the vast quantities of matter thinly distributed in interstellar space within each galaxy.

The evidence for the overwhelming predominance of hydrogen in the universe is both spectroscopic and theoretical. The sequence of events which led up to this discovery is of interest. Sir Arthur Eddington, in the course of pioneering investigations begun in Cambridge in 1916 on the internal constitution of the stars, had assumed for his theoretical model a rotating sphere of gas of composition not unlike the relative abundance of the various elements in the earth. He had run into persistent difficulties in calculating the opacity of such a star to outward flowing radiation. Radiant energy is generated deep within a star and gradually flows outward to the surface. Opacity is a measure of the loss of energy suffered by the radiations in passing through a given thickness of the stellar gases. The less the scattering and absorption, the greater is the transparency and the less the opacity and vice versa. Eddington knew that agreement with laboratory data on opacity could be obtained if the proportion of hydrogen in the model star were drastically increased, but neither he nor his contemporaries thought this justifiable in the nineteen-twenties.

About this time the relative abundance of elements in the surface layers of a star was determined spectroscopically by American astronomers and hydrogen was discovered to be the chief constituent of stellar atmospheres at these upper levels, with helium a far off second

and all the heavier elements forming but a small fraction of the whole. However, it then seemed unreasonable to think that these proportions were also true of the deeper layers of gas within the star; but by 1932 the probable existence of powerful convection currents beneath the surface layers of a star appeared to have been established theoretically. This would ensure mixing of the gases throughout the entire star just as the winds in the earth's atmosphere keep the nitrogen and oxygen thoroughly mixed. The deduction that hydrogen atoms far outnumber all others as the material of which stars are made could then be drawn and this conclusion was reached independently by Professor Eddington in Cambridge and Professor Stromgren of Denmark. Stellar theory and cosmology then entered upon a new era.

* * *

Granted that hydrogen is the basic substance of the universe, how, when and where have the quite significant quantities of helium come into existence and the relatively minute quantities of all the other ninety elements? Two types of answer have been given. One line of argument depends on the theory of the expanding universe proposed by Professor G. Lemaître of Louvain in 1927. From the observed rate at which distant galaxies of stars are receding it can be calculated that about seven thousand million years ago, all the matter of the universe may have been concentrated in the form of protons, neutrons and electrons in a "primeval atom" or small volume of immense energy density. The temperature would then have been tremendously high and cataclysmic explosion would have taken place with thermonuclear synthesis of atomic nuclei and the inevitable decay of neutrons until in some thirty minutes, according to their respective probabilities of formation and of nuclear stability, approximately the present relative abundances of the different elements would have come into being. The names of Fermi and Turkevich are associated with the calculations of these probabilities and times. With this expansion of the universe the temperature would fall rapidly and further synthesis of heavy elements on any large scale would cease, leaving the great surplus of hydrogen and helium which has continued to exist through the thousands of millions of years. Within this time

has taken place the gradual condensation of matter into vast units that are called galaxies after our own Milky Way system of 100,000 million stars which is a typical example. In each such "galactic volume", out of the hydrogen, helium and heavier dust particles, condensation into individual stars gradually proceeded and still is taking place at the present time.

The second hypothesis presupposes only hydrogen as the original substance and then proceeds to consider the synthesis of other elements in the deep hot interior of stars. Stars evolve by aggregation of matter around chance centres of greater density in the primeval gas; gravitation draws more and more matter into denser concentration and this causes the temperature to rise. At a central temperature of the order of 15 million degrees, helium is synthesized by proton-proton collisions when two hydrogen nuclei (protons) collide with such force that they form a new heavier nucleus of hydrogen. Then this in turn collides with a proton to form a light helium nucleus, and this in collision with another proton and attracting to itself two electrons forms a normal helium atom. Other sequences of proton collision are possible bringing into existence small amounts of the lighter elements up to carbon, nitrogen and oxygen. At Cornell, Professor Bethe investigated the mathematical probabilities of a cycle of events involving atoms of these three elements in a sequence of collisions with protons and spontaneous nuclear changes resulting in four hydrogen atoms becoming one helium atom with a total liberation of enough radiant energy to explain the output of light and heat from a star like our own sun. Thus helium will become much more abundant than any heavier elements.

The central temperature of the star will slowly mount to heights approaching 100 million degrees. This is the degree of high temperature which has been produced artificially over brief instants of time in the hydrogen bomb involving collisions between two heavy hydrogen atoms with a tremendous emission of radiation. The control of these exothermic nuclear reactions represents an advance of knowledge which, like all knowledge, whether scientific or non-scientific, can be used either for good or for evil purposes. Atomic energy, with hydrogen playing a large role, may provide the answer to the serious

problem of diminishing reserves of the natural fuels, coal and petroleum. "Atoms for peace" is not merely a slogan, it is already a reality.

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When the central temperature of a star rises beyond 100 million degrees the star may be said to be approaching old age. By this time thermonuclear reactions, as recently described by Hoyle, will have transmuted so much of the hydrogen into a sequence of heavier elements up to neon that contraction and further rise of internal temperature will rapidly follow. At 600 million degrees, sodium and magnesium will be formed; at 1500 million, aluminium, silicon, sulphur, phosphorus, chlorine, argon, potassium and calcium. If the star began with enough mass (at least 30% more than our sun) its central temperature could attain 2000 million degrees and the formation of iron, and to a lesser extent of titanium, chromium, manganese, cobalt, nickel, copper and zinc, would proceed.

With continued reduction of its hydrogen and helium content in this vast process (where, for example, 56 hydrogens are lost for every ordinary iron atom that is formed), the rapidly aging star may become so unstable that it suffers a cataclysmic explosion. This is accompanied by an immense but temporary increase in brightness and the star is called a *nova*. The explosion hurls a shell of gas, including many of the heavier atoms, into interstellar space. Thus with the passage of aeons of time, the interstellar gases have become enriched with more and more heavy atoms. These form molecules and aggregations as dust and frozen crystals capable of producing scattering and polarization of starlight—optical phenomena which are observable from the Earth.

In these regions of dust clouds and much free hydrogen, stars like our sun were born many thousand million years ago and younger stars have been and are being born—born with a head start by having a generous 1% of the heavier atoms including 0.25% of metallic elements, and also 10% of helium in their original make-up. These are now called Type I stars and they form a distinct contrast to the mature stars of Type II which were born when the universe was younger and have perhaps no more than 0.01% of the metallic

elements in their composition even after 6000 million years or more.

Galaxies are of two kinds—some are elliptical and some are in the form of great spirals like a pinwheel. Our sun is a humble member of a large spiral galaxy. The central portions both of our own and other great spiral galaxies, and the elliptical galaxies appear to be made up of the older stars of Type II. Their interstellar spaces are extraordinarily free of dust and absorbing gases. But the arms of the spiral galaxies appear to be rich in hydrogen and dust clouds, and here are found both the older stars of Type I and the young, very hot, massive blue giant stars as well as young stars of lesser mass and surface temperature, all of Type I, testifying by their spectra to their greater content of metallic atoms.

Since we know that our sun is a Type I star, and that it is not near the centre of our great galaxy or Milky Way system, the question arises as to whether we are out in a spiral arm? Can we trace the extent of our particular arm and the other arms seen in overlapping perspective between the obscuring dust clouds around the plane of the Milky Way? The affirmative answer has only come in the last four or five years. New methods of gaining astronomical knowledge were needed and the science of radio supplied the new tool. Jansky in the United States had found that short waves are reaching the Earth from outer space. Then Reber found a higher radio intensity, on the average, from the great encircling zone of the Milky Way and particularly from the Sagittarius region where lies the centre of our galaxy. Later van de Hulst of Leiden found theoretically that under the conditions prevailing in interstellar space hydrogen should emit a 21cm radio wave. This was first detected in 1951 at Harvard, and now its intensity in various directions in space is being mapped by astronomers in many countries. Not only does it locate the great concentrations of diffuse hydrogen in direction, and in spite of intervening dust clouds which are opaque or semi-opaque to visible light, but it makes possible distance measurements so that the spiral arms of our galaxy can be mapped in three dimensions. The well-known Doppler relation between the velocity of the source of light relative to the observer on the Earth and the position of the radiation in the spectrum—its wave-length being lengthened with recession and shortened with

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approach—is as applicable in the radio spectrum as in the optical or ultra-violet range. Every star and nebula in our galaxy is revolving about the centre of gravity of the galaxy, and these velocities are greatest near the centre and successively less and less in the orbits further from the heart of our galaxy, in accordance with a well understood law of orbital velocities which was discovered by Kepler and confirmed by Newton. It is therefore possible to calculate the velocities which nebulae or stars would have at different distances from the centre. This, together with the knowledge of our solar system's distance from the centre (26,000 light years where the distance unit, the light year, is approximately six million million miles) and with the information given us by Doppler changes in the exact wave length of the 21cm hydrogen line enables us to determine the distance of the hydrogen atoms emitting the radiation.

A beautiful example of the ability of this method to differentiate between three distinct concentrations of hydrogen in the same direction is shown on a radio record recently obtained with the Harvard radio telescope. Instead of one line agreeing exactly with the 21cm position on the spectrum, or in other words, corresponding to a radio pulse of frequency 1420 megacycles, the record shows three radio pulses of frequencies slightly beyond the 1420 Mc. One is relatively weak and two are very strong, and their Doppler displacements from the 1420 Mc frequency which the hydrogen atoms are emitting indicate that the weakest originate in a very remote hydrogen cloud, while an extensive hydrogen region lies relatively near to us and a yet larger concentration lies at an intermediate distance.

At the meeting of the International Astronomical Union in Dublin in early September, 1955, a three-dimensional model was shown of the arms of the Milky Way in a wide sector surveyed by the Leiden observers. A few years ago such an achievement would have seemed an unattainable hope. To the research scientists of Great Britain who developed radar, and to all who perfected the techniques of radio short wave reception under the pressure of wartime necessity, is due the phenomenal success of radio astronomy in the post-war years. This is but one example of how knowledge gained in wartime research has proved to be of permanent value in peace time—in this particular

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case with no ulterior motives, no thought of practical application, but simply to satisfy man's thirst for knowledge about this vast, mysterious and challenging universe of which he is himself a part.

* * *

Many questions arise when one meditates on the immense significance of hydrogen in the universe, ponders the problem of its composition, and speculates about the far distant future when the original amount of hydrogen has been largely transformed into other elements with the inevitable accompanying loss of mass and increase of radiation. We may ask: Why is hydrogen, the basic element, composed of such an ill assorted pair of particles as the proton and the electron? Very few, if any, living cosmologists will attempt an answer. An effort to supply a fundamental answer was made in 1931 by Eddington, but in the form in which the argument was left at the time of his death in 1944, it had still not carried conviction; and yet it is suggestive of a mode of approach worthy of further study. Is it possible to show that the proton and the electron are the two and only two fundamental particles of matter and that inevitably by the nature of things, while having equal and opposite electric charge of the observed value, they must have unequal masses which cannot be other than in the ratio of 1836 : 1? Arguing from the knowledge of theoretical physics then at his disposal, Eddington tried valiantly to achieve this result about the truth of which he had no trace of doubt.

Reference was made earlier to Lemaître's primeval atom and his assumption of a "beginning" or time of creation of the universe. Some cosmologists dislike the idea of a finite time following upon an instant of creation and have sought an alternative theory. Jordan in Germany and Bondi, Gold and Hoyle in Great Britain, have investigated the implications of assuming a large scale uniformity of the universe, not only in space but in time. This means neither a beginning nor an end; and it assumes continuous creation of matter throughout space to maintain the density which would otherwise become progressively lower with the expansion of space. From the actual rate of recession of the distant galaxies, they have found that the rate of appearance of matter *ex nihilo* would have to be one atom of hydrogen

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per cubic mile of space per hour. This is much too small for observational detection even if it be taking place. Assumptions about creation from which various cosmologies are developed must be selected at present on a basis of intellectual or aesthetic preference. As far as religious feeling is concerned, there is no less mystery and sublimity behind the Biblical statement, "In the beginning God created . . ." than behind the modern theory which implies, "From eternity God has been creating . . ." On the latter assumption galaxies are formed and their individual stars run their evolutionary courses and eventually become extinct, space continues to expand carrying galaxies and radiation beyond the cosmic horizon of any observer, but the supply of new hydrogen from which yet other stars and clusters and galaxies are formed is never exhausted.

If, as most astronomers seem inclined to do, we reject the theory of continuous creation of hydrogen, then we must face the problem of a universe whose supply of hydrogen is gradually diminishing. Is there any process at work in the universe renewing the stores of hydrogen to some extent at least by the disintegration of helium and heavier atoms? Possibly an agent of this sort is to be found in the extraordinarily high energy particles known as cosmic rays, some of which appear to attain energies corresponding to a thousand million volts. Recently, the Swedish physicist, Alfvén, has investigated the remarkable properties of what are called "magnetohydrodynamic" waves in a deep bowl of mercury subjected to a magnetic field. By analogy, the results of this laboratory experiment are applied to a large ionized gaseous body like a star and to the far vaster regions of hydrogen and ionized hydrogen in the spiral galaxies. In such regions magnetohydrodynamic waves may be surging through interstellar space with its wide-spread magnetic fields, generating weak electric fields which, because of their vast extent, can accelerate charged particles to velocities that are capable of disrupting any nucleus and releasing its imprisoned hydrogen nuclei. Here is an almost unexplored realm. Truly it may be said that the eye hath not seen, nor the ear heard, and scarcely hath it entered into the mind of man to conceive, the things which Nature may still be holding in store for them who seek.

REPRINTED FROM QUEEN'S QUARTERLY, Kingston, Ontario.
Winter 1957. Vol. XLIII, No. 4. Subscription \$4.00 per year.