A.M.D.G.

St. STANISLAUS MAGAZINE

VOL. [3] **JUNE 1945** **No. [1]**

Editor: W.E.V. Harrison, B.A. (Lond.)
Assistant Editor: A.A. Abraham, Jnr.
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ACKNOWLEDGEMENT

We acknowledge with thanks the receipt of the following publications:

The Mountaineer, Christmas, 1944.
The St. Mary's Annual, 1944

FOREWORD FROM THE PRESIDENT

The St. Stanislaus College Association is now in its third year and the constant increasing membership since it was formed in September, 1942, coupled with its virility, clearly indicates that the founding of this Association was long over-due.

I am glad to have been a Member on Fr. Gill's committee in 1942 for the purpose of raising funds for making up the then newly acquired Sports Ground at Thomas Lands. This committee urged the formation of an Association and with such men as John Fernandes, Frank de Caires, Cecil de Caires and Fr. Gill, S.J., it was not long after, with His Lordship Bishop Weld's approval, that the inaugural meeting was held at the Ursuline Convent and the St. Stanislaus College Association was formed. As I have stated above, the Association has grown in strength since its inception and I quote membership figures at the end of the first two years. At the 31st December, 1943, our membership was 201, and at the 31st December, 1944, we had 240 members. I hope that the current year will see a relevant or greater increase in membership. I do believe that the normal membership of the Association should be around 500. All who are eligible should not hesitate to enrol as Members, and be active Members, attending our two monthly meetings, on the first Monday and third Friday of each month. Surely, you will be interested and derive benefit from our various activities in the form of debates, discussions, lectures, quiz competitions to mention but a few, and let me not forget the more popular Socials and the Annual Dinner. The Association has a lot to offer you as we are an active body.

There are some who decry the fact that St. Stanislaus College cannot obtain a Government grant to meet its annual deficit. It is said that "Out of evil cometh good" and although we all agree that a grant to the College is an obligation which Government is evading, yet it gives our Association greater strength and unity, for we know where our duty to our Alma Mater lies and with the Association behind it St. Stanislaus will not only carry on, but continue steadily on the road to progress.

C. C. DeFreitas

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EDITORIAL

On the 23rd of February last fire swept through the heart of Georgetown's business section leaving in its wake a trail of ash and ruins and a lot of sorely hurt businessmen and firms, Among these businessmen and firms were many who have generously afforded their assistance to the St. Stanislaus College Association at one time or another in the past. To these, and to the others as well, we offer our sincere sympathy for the loss they have suffered and would ask them to believe that our expression of feeling is this belated only because this is the first opportunity to do what we now do that has presented itself to us since the catastrophe.

To one firm, however, we offer not sympathy. To the *Daily Chronicle, Ltd.,* we extend our congratulations on an escape we can only feel resulted not merely from the efforts of man. A very close neighbour to the building in which the fire originated, "Chronicle House", which through its generous Manager, has always been of the greatest assistance to the Association and especially to this Magazine, was hardly scorched, suffering more damage from water than from fire. "We are grateful for its preservation, for we too would have suffered in its loss.

And now, from a loss averted to a loss suffered. By the time you read this the Editorial Committee will be without the services of our Assistant Editor, Mr. Arthur Abraham, Jnr. He leaves Georgetown for Imbaimadai in the interior of the Colony where, we understand, he is likely to be stationed for some time. This Magazine owes a lot to him. From the start he has been indefatigable in its service, and we can view his going only with regret, hoping that someone can be found to fill the gap he leaves behind him. We would like to say to him "thank you ", and to wish him and his family a pleasant sojourn in a part of the Colony not many have visited.

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REPORT OF THE COMMITTEE OF MANAGEMENT OF THE ST. STANISLAUS COLLEGE ASSOCIATION FOR THE PERIOD 1st JAN. TO 31st DEC., 1944.

MEMBERSHIP.

On the 1st of January, 1944, the Membership of the Association was 201, composed of 138 Ordinary Members, 20 Honorary Members, 22 Overseas Members, 18 Associate Members and 3 Life Members. During the year there was a net increase of 39 making the number of Members on the 31st of December 240. Of these 148 were Ordinary Members, 23 Honorary Members, 31 Overseas Members, 35 Associate Members and 3 Life Members.

COLLEGE DEFICIT.

During 1944 the College Aid Sub-Committee was faced with the task of raising $2,058.56, the deficit on the running of St. Stanislaus College during 1943. To this end the following efforts were made to raise funds. Two dances, one in April and one in November were held in the Assembly Rooms, the net proceeds of which were $400.07 and $293.54 respectively. A raffle by Mrs. George Camacho, Snr.,- we wish to record here our thanks to her - also realised $40. As this still left us considerably short of our goal it was decided towards the end of the year to hold, in addition to the usual Christmas raffle, what was originally intended to be a small children's fair to be known as 'Santaland'. This fair, once preparations were set on foot, soon showed signs of developing beyond original intentions, and ultimately, thanks to the willingly afforded help of Members, College boys and friends, especially lady friends, of the Association, did so to such an extent that the net proceeds of "Santaland" and the raffle reached the excellent total of $2,626.19. This made the grand total of funds raised during 1944 $3,359.80, leaving, after the deduction of the 1943 College deficit, a balance of $1,300.24. This balance the College Aid Sub-Committee feels should be carried forward to 1945, not with the object of lessening the amount to be raised to meet the 1944 College deficit, but as the nucleus of a reserve fund which the Sub-Committee recommends should be built up to take care of future contingencies such as, perhaps, the urgent and unforeseen need by the College of sums of money of such proportions as might be difficult to find readily in the absence of such a fund.

St. STANISLAUS MAGAZINE

Two further numbers of the St. Stanislaus Magazine appeared during 1944. In 1943 the Magazine was published in April and October, and it was the intention that the same should be the case in 1944. Unfortunately the first issue in 1944 could not be brought out until June. It cannot be conscientiously said that this was unavoidable as the cause lies in the greater part in the reluctance of Members to come forward with contributions for publication. Members are earnestly asked to support the Magazine, not merely by paying a shilling for a copy, but by sending in original contributions to the Editor and so assisting the Editorial Sub-Committee in its task of maintaining the

present high standard of the Magazine. To those who have contributed articles in the· past year, or in any other way helped in the production of the Magazine, the Committee wishes to extend its thanks.

ACTIVITIES SUB-COMMITTEE.

This Sub-Committee has done excellent work, arranging throughout the year a series of varied and very attractive programmes. These included:

a) three social evenings, and the annual dinner,
b) on three occasions programmes of cinematograph films,
c) a quiz, and
d) four talks, two on scientific subjects, one on music and one on history.

The Sub-Committee wishes to record its thanks and appreciation for the willing help which it received in its task of arranging these programmes, and to express its gratitude to the United States Consulate, in particular, without whose ready generosity and willingness to place its equipment and films at the disposal of the Association the programmes of cinematograph films referred

LITERARY AND DEBATING GROUP.

During the year this Group continued to function regularly. Departure from the regular routine was made on several occasions, and, instead of the usual debate or discussion, "Spelling Bees" were held in February and July, a Mock Trial in September and a talk followed by discussion in October. Attendance at meetings of the Group has not been as large as could be desired and the Committee would urge members in their own interests Ito make as much use as possible of this most valuable side of the Association's activities. Anyone who desires to become a member of the Group should submit his name to the Secretary of the Group, Mr. Herman de Freitas.

ANNUAL DINNER.

The Association's second Annual Dinner took place on the 10th of November at the Catholic Guild Club's Hall. As in 1943 this was the outstanding social event of the year. If this is possible it was a bigger success than the first dinner, covers being laid for about 115 persons. Our thanks are again due to the Committee and Members of the Catholic Guild Club for once more so kindly placing their Club's Hall at our disposal.

ST. STANISLAUS COLLEGE ASSOCIATION SCHOLARSHIP.

As a result of the healthy financial position of the Association, the Committee decided to use a portion of the Association's funds in a way directly beneficial to St. Stanislaus College, and accordingly approved of the award of a scholarship tenable for five years at the College from the funds of the Association. Full details of this decision and of the Regulations governing the award of the scholarship

appeared in the October issue of the St.Stanislaus Magazine. The award for the year 1944 was made to Marcellus Fielden Singh of St. Anthony's R.C. School, Friendship Village, East Coast Demerara.

GENERAL.

Mr. H. W. de Freitas who had been elected Honorary Secretary of the Association found it impossible to continue in this office and consequently resigned. The Committee elected Mr. W. E. V. Harrison, the Honorary Assistant Secretary, to the post of Honorary Secretary and Mr. John Fernandes to the post of Honorary Assistant Secretary rendered vacant thereby. Fortunately, it was possible to persuade Mr. de Freitas to sit on the Committee as an ordinary member and he was accordingly so elected.

The Committee wishes to thank all those who in any way supported the Association during the past year, and in particular those ladies whose whole hearted and generous efforts contributed so largely to the success of the dances and "Santaland." In the latter connection the Committee feels that special reference should be made to Mr. John Fernandes and the large debt of gratitude the Association owes him. It is easily conceivable that without his very generous, untiring and completely unselfish efforts "Santaland" would have remained the little fair it was originally intended to be and! would never have been subject to that metamorphosis the splendid results of which we must all have witnessed.

In conclusion we must once more express our sincere thanks to Mr. Clement I. Gonsalves for auditing the books of the Association and preparing the Auditor's report. As on the previous occasion he has generously neglected to make any charge for his services.

23rd February, 1945

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LITERARY AND DEBATING GROUP

Since our last report, meetings were held regularly each month with the exception of the months of November, 1944, when the first Monday was a Holiday, January, 1945, when the first Monday fell on the 1st of the month and April, when the monthly activities' meeting was held on the first Monday, the 2nd of the month.

These meetings took place on 4th December, 1944, 5th February, and 7th March, 1945, and a summary of each follows.

December 4th - Discussion.

"That the decimal system should be made universal in currency, weights and measures."

This discussion was interesting though there were only 12 members present. Mr. C. P. de Freitas, Chairman, led the discussion and the conclusion was that the meeting was of the opinion that the decimal system was better and in many respects advisable and even desirable, but that there would be great difficulty in adoption especially where money was concerned.

February 5th - Debate.

"That the man who climbs from the bottom of the ladder makes the. best employer"

This debate was well attended, 35 members being present, and was very well argued, almost everyone having something to say. The proposer was Mr. Celestine C. de Freitas, seconded by Mr. Hector L. Steele. The opposer was Mr. C. H. Da Silva, seconded by Mr. D. C. Da Silva.
After a very full, entertaining and almost heated debate the motion was defeated by 21 votes to 10. The standard of the debate was high, and among those who excelled was Mr. (no name) who, exercising the right of any member present to either support or oppose a motion, so aptly said "what some members wanted to say" that they lost no, time in getting on their feet and declaring "Mr. ? has said just what I wanted to say" to the loud amusement of the other members present. Oh! it be added that Mr.? opposed the motion and no doubt played a part in its defeat.

March 7th - Spelling Bee

-two teams to be selected on the spot and prizes to be awarded.

The programme for the evening called for the election of office bearers to be followed by the "Spelling Bee."
The office bearers were quickly elected, viz :-

President: Mr. Herman de Freitas.
Members: Mr. C. C. de Freitas, A. A. Abraham, Jnr., and Fr. F. J. Smith, S.J., with
Hon. Secretary: Mr. D. C. Da Silva.

However, as the attendance was not large enough to justify it, the Spelling Bee was not held: instead each member present asked a question on some subject of interest and someone else, conversant with the answer, replied.

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ROLL OF HONOUR

DULCE ET DECORUM EST PRO PATRIA MORI		
R. G. Amory, Flt.-Sgt.	R.A.F.	Killed in Action.
2nd Lieut. P. A. Heald	R.A.	Killed in Action.
Lieut. Alfred S. H. July	Q.R.R.	Killed in Action.
Sgt. Bombdr. *V.* Peter Dias	R.A.F.	Killed on Service.
Pte. C. de Chalus	R.A.M.C.	Died on Service.
Capt. Stanley Alastair Heald	R.A.F.	Died on Service.
AC2 Dominic S. Psaila	R.C.A.F.	Died on Service.

R.I.P.

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LIST OF OLD BOYS SERVING WITH THE FORCES

E. I. Alves,	R.A.F.	Clement Foster, Gunner,	R.C.A.
A. Belgrave, Lieut.	S.C.F.	Gordon French, R.A.F.	R.A.F.
"Jimmy" Billyeald	Grenadier Guards	C. Gomes,	R.A.C.
		Elson Gomes, R.C.A.F.	R.C.A.F.
D. Birtles,	R.A.C.	Maurice Gomes, R.A.F.	R.A.F.
F. Brazao, Flt.·Mech.	R.A.F.	R. Gomes, RA.F.	R.A.F.
Philip Camacho, L.A.C.	R.A.F.	Francis I. Gonsalves, Sgt.	R.A.C.
John A. G. Christiani, *AC2*	R.A.F.	F. P. "Stumps" Gonsalves, Wing-Commander, D.F.C., D.S.O.	R.A.F.
Alan Cunningham, Sgt.	R.A.F.		
Anthony Cunningham, Sgt. - Pilot	R.A.F.	R. Gonsalves, Pilot Officer	R.A.F.
D. Cunningham,	R.A.M.C.	Alfred Gouveia, R.C.A.F.	R.C.A.F.
Ian Cunningham, W. Op.	RA.F.	Andrew Grant,	R.A.F.
Bruce Da Camibra, Guardsman,	Canadian Grenadier Guards.	Michael St. C. Grant,	R.C.A.F.
		Elmo Hart.	U.S. Army
		Harry Hart,	U.S. Army
Francis J. D'Agrella, Sgt.	R.A.F.	Lawrence Hart,	U.S. Army
Carl Da Silva,	U.S. Navy.	C. E. H. "Teddy" Heald, Capt.	S.C.F.
Flavio Da Silva,	R.C.A.F.	David Arthur Howard,	R.A.F.
Frank Da Silva,	R.A.C.	George Howard, R.A.F.	R.A.F.
George Da Silva,	M.N.	H. C. B. Humphrys, Lieut.	R.A.F.
S. Da Silva,	R.N.V.R	Bolland C. Jardine, Flt.-Sgt.	R.A.F.
Vernon Da Silva,	R.A.C.	Denis R. July, Trooper,	R.A.C.
J. H. Davies,	M.N.	Jackie F. July, Trooper,	R.A.C.
Dennis De Caires, Flt.Sgt.	R.A.F.	Cecil P. King. D.F.M., Pilot Officer	R.A.F. (Missing).
Alex. De Freitas, Major	R.A.M.C.		
Arlindo De Freitas, Sgt.	R.A.F.	J. Lopes, Lt.-Col.	R.A.M.C.
Celso De Freitas, Sgt.	R.A.F.	Ovid Marks,	R.A.F.
Gerald A. De Freitas, L.A.C.	R.A.F.	H. N. Nascimento,	R.C.A.
H. E. De Freitas,	R.A.S.C.	Pat Nobrega,	R.E. (Prisoner of War).
J. P. De Freitas,	R.C.A.F. (?)		
L. A. De Freitas,	RA.F.	Bryan O'Dowd	R.A.F.
Malcolm De Freitas, *AC2*	R.A.F.	Norman Psaila. Lieut.	R.N.
Michael De Freitas, Sub.-Lieut.	T.R.N.V.R	Noel Rego,	R.A.F.
		G. Lloyd P. Roberts, AC2	R.A.F.
P. M. de Freitas,	R.A.O.C.	D. Rose, 2nd Lieut.,	K.O.Y.L.I.
R. A. DeFreitas,	R.A.F.	Walter E. Roth,	R.A.F.
Colin A. De Groot, Sgt.	R.A.F.	Joseph A. Roza, AC2	R.A.F.
P. John Dodds,	R.A.F.	Chas. I. Schulz, Gunner	R.C.A.
Carl F. D'Ornellas, Lieut.	S.C.F.	Claude Serrâo,	R.A.C.
H. A. P. Evelyn, Lieut.	S.C.F.	Frank D. Slater, Lieut.	1st Bat. Loyal Reg.
J. Evelyn, Sgnlr.	R.N.		
"Billy" Fernandes,	U.S. Army	John Milne Smith, Pilot Officer,	R.A.F.

Charles Fernandes,	U.S. Army	David O. M. Thorne, AC2	R.A.F.
H. Fernandes,	R.N.V.R	"Glerry" J. R. Tranquada,	R.A.F. (Mentioned in Despatches).
Philip Fernandes,	R.A.F.		
René Fernandes, Lieut	S.C.F.		
J. O. Fitt,	15th Welsh Regiment	I. Vieira,	R.A.F.
		Stephen H. C. Wallbridge, 2nd Lieut.	R.A.C.
Terence Fitzgerald, Flt.-Sgt.	R.A.F. (Missing).		
		Leon I. C. Willems, Pilot Officer	R.A.F.
Anthony Fletcher, R.N.	R.N.		
Bernard A. Foster, Lieut.	S.C.F.		

We apologise for any errors or omissions in this list, and appeal to relatives and friends of old boys serving with the Forces to supply us with information to enable the list to be brought up-to-date and made as accurate as possible. Information about ranks and decorations will be specially welcome.

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DON’T LET THE PEOPLE SING

(with apologies to J.B. Priestley)

by
R.O.D.

When I was at school, which was a long, long time ago, I used to write innumerable essays good, bad, indifferent and, more generally, positively rotten about all sorts of things-more often than not on subjects about which I had not the foggiest notion. Among these disagreeable items "the Radio" came in for. its share of comment and the inevitable padding necess3lry to stretch it out to the required three pages; in those good old days I must shamefully admit the great benefits of radio to mankind, which now in my second childhood I can see. clearly, just never occurred to me and its only outstanding importance then was its being an adequate and reasonably priced means of supplying the hottest jazz suitable to my rather barbaric tastes. However, seeing that it was either three pages or nine ferulas I gallantly swallowed my pride and wrote at length on its being "a blessing and a boon to mankind."

Well times have changed since 19 - er, never mind, and I with it, so much so that I now really and truly believe in all those n:marks I used to make in such a sceptical and tongue-in-the-cheek manner during my rash youth. And that's not the 'ad of it, for my view has so broadened with the passing of decades that I have recently been trying to discover if radio can actually be harmful. And I believe I have found the answer: Sinatra.

Of course I don't want anybody to get the idea that Frankie and I ain't friends and that I've got a grudge against him or something. It's not that at all, it's just that he happens to be the most brilliant example for my discussion on "the evils of radio broadcasting"-in fact he's the blinkin' criterion.

Happily, there is only one evil in radio but that unfortunately is found III music, and of the music more unfortunately yet, the vocal part. Bad instrumentalists are not employed for long and if they are soloists they get eggs chucked at them, but unfortunately the same does not apply to the Voice (in general that is, and not to be confused with a Certain Person). It would seem that mediocrity has come into its own, and the worse they are the more the bouquets and the fatter the cheques.

It should be the ardent desire of everyone engaged in a profession or otherwise to achieve perfection and to ascend to the very top rung of their respective ladders; thus it is a medical student dreams to be a great specialist, an infant piano prodigy thinks of Liszt, a young street hooligan sighs longingly for a Jack-,the-Ripper career-but whatever it is, each one with schnozzle pointed straight at his Mecca and every minute bringing him :nearer. That's the way it should and does go with most musicians, but radio broadcasting offers an easy way out for singers and unfortunately far too many take that path.

Nowadays anything that hasn't got laryngitis wants to sing, but how many of 'em think of Caruso or Scotti or Galli-Curci? Not many! They all want "to lay 'em low like Frankie." Radio is the land of honey and milk and it takes no special effort to qualify, and as a result Art-the perfection of the voice- is not only being evaded and ignored, but, in a great many instances of promising talent, something in the nature of vocal abortion takes place, beautiful young voices slowly but surely on their way to operatic greatness suddenly deviating to the inferior and sloppy but nevertheless more remunerative by-paths of radio. I sincerely trust that my meaning is not misunderstood and that I am not giving the impression that singers should not broadcast: That wouldn't be funny. For surely it is one of radio's boons to mankind to hear the world's great voices at no cost whatever-to have Gigli and Martini and Tibbett and Pons brought right into one's drawing room. But then these artists are "made"-the finest in their class and radio brings their beauty and artistry tv millions who have neither the money nor the opportunity to attend operas and concerts. I merely maintain that it is tra.gic to see a promising voice snatch at a radio opportunity and be content to waste itself on Tin Pan Alley music rather than to pursue its rightful course, for no other reason but that one has big money and little work by comparison, whereas the other, though paying well enough to those who are good, nevertheless demands every ounce of effort on the part of those who would choose to develop their art to the utmost. To attempt to choose between money and art is often fatal to art.

Perhaps after all one cannot entirely blame the artists themselves. Imagine for instance, the case of a young person of promising talent but of very humble position. That person's desire is to sC8ilethe heights not only for the fame and distinction of achievement but also to improve his financial position. He now arrives at the crossroads. To the right is Opera, offering the highest honours to be gained but demanding so much: acting ability, a long memory for various roles and the ability to sing in at least four different languages, 'the wear and tear of rehearsals and finally the performance itself with its long hours of singing. And by singing I :mean *real* singing, the full range of the human voice with top notes in galore and lung power to send them clearly and flawlessly to the last seat in a vast auditorium. But even before stardom is achieved, what of the years and years of apprenticeship in the chorus with the same hard work---One voice among hundreds, unknown, unheralded before ultimate success-perhaps! If you can stand the grind the Metropolitan's top salary is less than $1,000.

Then he looks to the left at Radioland. No languages necessary, no histrionics and a broadcast lasting gener8ilIy half an hour of which the star uses only fifteen minutes for songs of a type where voice range is sever.ely limited and a high C is as rare as a pearl in a gold mine. For this type of stuff there seems to be no salary ceiling-sponsors pay anything. $3,000 per broadcast is often paid while Sinatra has been known to earn $7,000.

Suppose you are faced with such a choice what would you do? There ought to be a law or something.

England's tempestuous Sir Thomas Beecham takes a different view point when he lashes out that musical broadcasts "can never achieve or reproduce the tonal perfection one hears at the actual performance because, before it reaches the ear, it is required to run the gamut of knobs and levers and electrical gadgets and wired circuits handled by men who, almost invariably, are mechanics rather than artists." Well, one cannot help thinking that even the great Sir Thomas is quite a bit prejudiced. Granted that an immensity of apparatus is required for broadcasting, and that something must be taken from the music during its long journey to your radio, yet in the real big networks like the R.B.C., N.B.C. and CBS, these sound engineers are the best in their field, and 110 matter they might not be trouble to distinguish Rossini from Wagner, their job is the accurate reproduction of music-to them a combination of sounds-and even Sir Thomas' superior musical knowledge could hardly do as good a job.

No! I don't think that to-day bad broadcasts can be safely blamed on the control room. Science has advanced too far for that. We have to look somewhere else for our answer--'the artists themselves! Perhaps they are selling their fruit only half ripe.

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PHOTOGRAPHY AND ITS APPLICATIONS [1].

When we speak of photography, the average person thinks at once of a Kodak and the last pictures taken of "Baby," or of his girl friend. or picnic groups, etc. This is not to be wondered at when we realise that perhaps photography is the most popular hobby among people of all ages. Before the war it was estimated that in the British Isles more than five million people (i.e. one in eight of the population) used cameras. This estimate was confined to amateur photographers only; if we add to this the thousands of professionals both in the studio and the press, it truly makes an astounding total.

It is true that owing to the war this popularity has decreased to a certain extent, but only due to the war, as the figures given by the manufacturers just prior to the outbreak of war show that the curve of consumption of amateur and professional photographic material was rising steeply.

But photography is not only a hobby or craft; it has become vastly important in technical spheres. Its importance in this direction has not declined during the war but has increased to such an extent that if one were to try to draw a graph showing this increase it is likely that instead of getting a curve one would get an almost perpendicular line.

Even before the war photography entered into practically every department and section of this twentieth century world, and without it the activities of the world would be so hampered as to be almost crippled. Even if the fact were ignored that the absence of the Cinematograph (one branch of photography would alter the character of the daily life of millions of people, many other facts none the less vital remain. Our food, our clothes, motor cars and machinery, industrial processes, science and medicine, the work of the airman, soldier and policeman owe much of their progress to photography and photographic technique, while it is almost a mental impossibility to contemplate the once pictureless state of newspapers and periodicals. One reason why so many do not realise the important part photography plays in the modern world is that its almost universal range of usefulness only became possible within the last 30 years or so, due to the extraordinary improvement in the technical quality of photographic material now available as compared with that of even 15 or 20 years ago; another is the introduction of new types of camera equipment providing possibilities and a range of work hardly conceivable 20 years ago. Much has been said of the cinema as a harmful agent - we have even had it on trial in our debating group - but both professional and amateur photographers owe a large debt of gratitude to the cinematograph for the advance in the improvement in the technical quality of the photographical material. The developments of the screen called urgently for material more and more sensitive, for higher speeds and better colour renderings, bigger lenses, infra-red sensitive emulsions, and so forth. The film industry footed the bill for the research and technical work required and the "still" camera user benefited by the results. Thus we get such

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[1] *This article is adapted from the script of a talk delivered to members of the Association by Mr. de Freitas some time ago.*

super-sensitive films to-day that most of the difficulties - especially in regards to correct exposure - of the amateur snapshotter have disappeared; hence the increase in numbers of this type of photographer.

Before I go on to describe and give you some details of some of the applications of photography to-day, it is necessary to have an understanding of some of the principles involved in this science, and in order too make it not too technical I think the best way would be to give you a short history of photography. This story of the scientific development of photography from humble and crude foundations to an industry and art of such immense importance and proportions is so absorbing that it is difficult to make it so short as not to fill the entire Magazine; in trying to do that I hope that I have not made it so sketchy as to become boring.

Photography is really the offshoot of physics and chemistry, and therefore the early histories of those two sciences are closely allied to the story of the scientific development of photography.

The first observer of what is now called photo-chemical action is an unknown individual in the period long before the Christian era; it was as long ago as that that it was noted and commented upon that the influence of light caused the fading of dyed fabrics and other coloured materials. Also unknown is the first observer of the light-sensitivity of silver salts upon which fact the greater part of present day photography is based. It would appear however that the darkening property of silver compounds was known to the early Egyptians, for mummy cloths marked with silver stains have been discovered. The earliest account of the darkening of silver nitrate under the influence of light is that given by Yeber-Abou-Moussah-Djafer AI-Sofi (known nowadays as Geber), an Arabian philosopher who died about the year 777. We have evidence also that the alchemists in the middle ages knew of this property of the silver compounds; for in the works of one of them, one Georgius Fabricius who lived in the sixteenth century, there appears a clear account drawing attention to the fact that *luna cornea,* or "horn silver," found in the mines at Frieburg, Germany, - a naturally-occurring chloride of silver - passed through a series of changes of colour ranging from yellowish grey to dark violet when exposed to strong light.

The first person however who attempted any experiments to utilize these darkening properties of silver salts under the action of light was Johan Heinrich Schultze, a German physician. In 1727 he published an account of certain experiments he made. Noticing that the contents of a bottle containing a suspension of chalk in a solution of silver nitrate darkened when exposed to the rays of the sun, he cut out simple figures and letters in opaque paper and pasted them on the outside of the bottle. In this way he obtained sorts of silhouettes imprinted in the bottle's contents. As soon, however, as the bottle was shaken the images naturally disappeared. For these observations, Schultze has been styled the "Columbus of Photography." Other 18th century experimenters were Ritter, Fischer and Senebier, who however did not contribute much. The famous Swedish chemist, Carl Wilhelm Scheele, however in 1777 found that violet rays of light acted more powerfully upon silver salts than other rays, and this was an advance in knowledge which helped in later years.

The man, however, who in all truth can be termed the world's first photographer is Thomas Wedgwood, the son of Wedgwood the potter. His were really pioneer practical experiments in photography as we know it to-day. He began his experiments in 1791 and published an account of them in 1802. He coated a sheet of paper with a solution of silver nitrate and placed in contact with it flat objects with a distinctive pattern such as leaves, lace and so forth and then exposed it to the sun's rays. The parts which were uncovered by the fIat objects darkened leaving a white silhouette of the object imprinted on the paper. In the same way he produced copies of drawings on glass on his silver nitrate paper. Thus you see the beginnings of our modern printing on sensitized paper from glass negatives. He even went so far as to try and take actual photographs in a camera by exposing a sheet of his silver nitrate paper therein. His paper however was far from being sensitive enough for this purpose and his experiments in that direction were a failure. These "sun prints" of Wedgwood were not permanent however, for as soon as they were exposed to strong light the white areas darkened and the whole thing became uniformly black. Both Wedgwood and Sir Humphry Davy, a chemist, who became associated with Wedgwood as his patron, made attempts to fix these sun images, but without success, and his early death in 1805, together with the fact that Davy occupied himself with other chemical matters, put an end to these experiments for the time being.

I mentioned just now that Wedgwood employed for some of his experiments a camera. At this stage therefore I should say something about this. It may seem strange but it is a fact that the principle of the camera is at least two and a half centuries older than the earliest of photographic processes.

The camera used by Wedgwood was a darkened chamber called “*camera obscura."* It consisted of a large box fitted with a simple type of lens which threw an image on a screen at the rear. It has been said that a certain Friar Bacon of Oxford invented the *camera obscura* in the thirteenth century, but there is no certain knowledge of its existence until somewhere in the sixteenth century when we find in a treatise by an Italian physician, one Giam battista della Porta, a disclosure of the fact that a small circular hole made in the wall or window blind of a completely darkened room will cause an image of a well-illuminated object or view outside the room to be projected on the opposite whitened wall of the room. Della Porta went further than this however and conceived the idea of placing a lens in the aperture of the darkened room and thus produced images both brighter and more distinct. Later this same *camera obscura* was called a *camera lucicla* and was used by artists to trace on paper the projected image of a view.

After the death of Wedgwood in 1805 all experiments in obtaining images by light action seem to have ceased until in 1814, a Frenchman named Niepce, who was a soldier with a bent towards scientific investigation, began devoting his spare time to trying to discover a method of producing by light designs on stone, which previously had to be laboriously drawn by hand. He had, of course, read of the experiments conducted by Wedgwood, but could not solve the difficulty that confronted Wedgwood, that of fixing the image permanently. However, by some means not known to us he discovered that a certain substance known as Jew's pitch, or bitumen of Judea, found on the shores of

the Dead Sea, possessed the property of becoming insoluble in certain oils after receiving a prolonged exposure to light. He continued his experiments in this direction, and by coating a metal plate thinly with this bitumen and exposing it for about eight hours in a *camera obscura,* and afterwards dissolving away in warm lavender oil the bitumen which had received no light action, was able to obtain a picture of sorts, of the view outside the camera, on bitumen supported on a metal plate. This picture was permanent and no subsequent exposure to light would obliterate or fade it. He still continued with his experiments with a view to cutting out the laborious method of drawing on stone. He therefore again coated a metal plate with the bitumen and exposed it to light under a sheet of transparent paper which had a design drawn on it in dense Indian ink. After dissolving away the unexposed portions in oil of lavender he obtained on his plate a perfect reproduction in bitumen of his drawing. He then poured over the plate an acid fluid which etched the metal where it came into contact with it at the dissolved away portions of the bitumen. The undissolved portions of bitumen protected the plate from the etching fluid. After cleaning away the entire bitumen coating from the plate, a replica of the drawing was found to be engraved on the plate. Several fine examples of these plates were found among his possessions after his death. Thus was born the fundamental principles of the modern lithographic processes. After this discovery, in 1827, Niepce offered to read a paper on the method before the Royal Society, but that body refused to hear him because he was unwilling to reveal to them the precise details of the process,

During this same period another Frenchman comes on the scene. This was Louis Daguerre, who in general has been credited with the invention of practical photography. Daguerre was an artist devoted to scenery painting and the production of panoramic views. For this purpose he used a portable *camera obscura,* and was struck with the idea of trying to fix the images and retain the "wonders which the sun's rays drew at the focus of his lens," as he put it. He became very enthusiastic and undertook the study of chemistry, fitting up a laboratory for himself. He made all the experiments which earlier workers had performed upon the darkening properties of silver salts but with no success at first. In 1826 however he claimed to have discovered a method of fixing the images obtained in his *camera obscura* *W*e do not know what this method was or whether it really did what he claimed, as he never revealed it. Hearing that Niepce was working on the art of sun-printing with great success, he wrote him suggesting that they combine forces and form a scientific and commercial partnership. Niepce was very suspicious of Daguerre at first but eventually agreed to his suggestion. A deed of partnership was signed in December 1829 in which the two scientists agreed to continue their investigations, share their knowledge and divide all future benefits. This partnership however seems to have been one sided as Daguerre took to himself all the knowledge he could get from Niepce on the subject of bitumen printing but gave Niepce very little in return. They seem to have had several quarrels as well, each reproaching the other with wasting time on some experiment which the other was not interested in. Eventually Daguerre pursued his investigations more or less independently, leaving Niepce to his own devices of trying to increase the sensitivity of his bitumen coatings. After Niepce died in 1833 a new partnership was entered into between Daguerre and Niepce's son, but as before Daguerre again worked by himself.

Iodine at that time was a comparatively new substance having been discovered by another Frenchman, one Courtois, in 1812. Daguerre first used this substance as a stain to try and brighten up the images formed by Niepce on his bitumen plates, but without producing much progress. He then discovered that a silver plate treated with a solution of iodine was also sensitive to light. Continuing his experiments in this direction trying to increase the sensitivity in several ways, he hit on the idea of exposing a highly polished silver or silver-copper plate to the vapours of iodine thereby forming a thin film of silver iodide on the surface. He exposed these plates in his camera but even after a very protracted time he only obtained a very faint image. As is so often the case, an accident was the cause of Daguerre's being success.ful. After exposing these iodized silver plates in his camera with so little effect he discarded them and put them away in a junk heap in a cupboard, which also contained chemicals. Returning to the cupboard after a few days he was astonished to find that these once almost blank plates bore upon their surface strong images of the subjects to which they had been exposed in the camera. Be therefore rightly reasoned that these images had been developed upon the plates by the fumes of some chemical in the cupboard acting on the light-affected plate. He at once made several trials and experiments and discovered that the vapour from a dish of mercury left open in the cupboard was the cause of the development of the images. He at once went to work and brought this method to a great degree of perfection, announcing in Paris in January, 1839, that he had at last succeeded in making and keeping pictures produced by the lens in his *camera obscura.* With his business acumen, however, he refused to publish the details of his method until the French government agreed to grant a pension of 6,000 francs to him and 4,000 francs to the son of his former partner, Niepce, together with several other benefits. He then agreed to the request of his government to reveal his secrets to the world and permit his process to be practised by everyone. His greed however seems to have blinded him to justice for five days previous to his releasing the method in Paris he patented the process in England and issued a master licence to a Mr. Beard to work the process in England and issue individual licences.

Daguerre's process which was called a Daguerreotype was, though he discovered the principle of developing up a latent image, still an entirely slow one and exposures ranged from half an hour to even more than two hours, However the process was so intriguing that several experimenters worked on it at once. Sir John Herschel introduced the use of Hyposulfite of Soda as a fixing agent instead of Daguerre's use of common salt. Hyposulfite of soda - or Hypo as it is more commonly called - is still in use today for the same purpose, no other chemical being found as effective. A Mr. Goddard, a chemist of London, discovered that if he exposed the iodized silver plate to the fumes of bromine he increased the sensitivity to a great extent; and one Fizeau of Paris introduced the gold toning process, which by depositing a film of metallic gold over the silver Daguerreotype image increased the density and improved the colour and permanency. The result of these discoveries was that the daguerreotype rose to an enormous degree of popularity and "Daguerreotypists," as they were called, flourished in England, on the Continent, and in America, producing small portraits for a guinea and upwards. The credit for taking the first human portrait by this process, and indeed by photography really, goes to America where Professor Draper of New York University, a native of Lancashire in England took a photograph of his sister. It is related that Miss

Draper had to cover her face with powder and remain motionless for half an hour. The daguerreotype process was however capable of producing only one image per exposure. It was a positive process and there was no negative produced,

Contemporary with Daguerre there was an Englishman, Henry Fox Talbot, working also on experiments more in line with the silver paper process. He was a Member of Parliament in 1832 but retired a year later to devote his life to scientific research. He repeated the experiments of Wedgwood and Davy but succeeded where they had failed in being able to fix the images obtained on paper coated with silver salts. This he did by using common salt, discovering that this chemical dissolved the unexposed silver leaving the exposed silver on the paper. He gradually worked on increasing the sensitivity of his coated paper and also used a developing agent to bring out a faint image. This was gallic acid.

In the same month, January, 1839, in which Dagnuerre announced the discovery of his process, Talobot read a paper before the Royal Society in London giving an account of his process. Thus with Niepce and Daguerre he shares the honour of being the creator of photography, though Talbot's process is more like the modern technique in that a negative was used from which several positives or prints, could be obtained. He called his process "Calotype" from the Greek *"Kalos"* meaning beautiful and *"typos"* image. His 'process briefly was the coating with silver nitrate of a sheet of paper which was then floated on a solution of pot. iodide, thus forming on the surface a layer of silver iodide; this was brushed Over with a solution of silver nitrate and gallic acid and then exposed in the camera for from ten to fifteen minutes. It was then developed by further treatment with silver nitrate-gallic acid, and fixed in hyposulfite of soda and dried. Finally it was made translucent by passing it through a bath or melted wax. This was naturally a negative and from it prints were produced by exposing a similar treated paper behind and in contact with it. Thus it is the first process which closely resembles the present method. This process caught on at once with the public, though it is said that Talbot hindered its popularity by patenting every improvement on his process and preventing the use of it except to licencees. Under pressure of the scientists however he allowed the free use of it to all except professional portrait photographers, and amateurs took up the production of calotypes with great enthusiasm, this process eventually ousting the Daguerreotype from its popularity.

The calotype process had certain difficulties; these were that the grain of the paper showed through and interfered with the detail of the picture, and the getting of the paper to lie flat in the camera without curling. Of course the obvious way to overcome this difficulty was by using glass and this all the experimenters tried, among whom Sir John Herschel was the foremost. They all failed however in getting the solutions to remain on the glass until a French military man, Niepce de St. Victor, a cousin of the first Niepce, was able to devise a suitable binding material for the sensitive salts. He coated his plate with egg white and then impregnated this with the iodized silver salts exposing it and developing it in the same way as in the Calotype process. Though this was an improvement on the calotype paper method, it had its disadvantages in that the egg white took a long time to dry and it was not possible to always obtain a pure albumen, and consequently the sensitivity of the plate was variable.

A further improvement was soon to take place however. A certain Frederick Scott-Archer, who was a sculptor, took up the subject of photography with the object of preserving records of his work. Collodion appealed to Scott-Archer as a binding medium for his plates; this was much more suitable than albumen because it could readily be prepared in a pure state and it dried very quickly, He poured collodin over his plates, where it ran freely setting to a hard film in a few minutes. The collodionized plate then underwent the same process of iodizing and sensitizing and was exposed in the camera in a wet state, and before it had time to dry was developed and fixed and washed. This wet collodion process was introduced in 1852 and proved the final death blow to the daguerreotype process. It revolutionized photography and was the only process practised for a very long time. Because of the extremely fine grain and resolving power of the coating it is still used for very special work in some laboratories to-day in spite of the many disadvantages. Modern materials have however almost ousted it from even that supremacy. Its great disadvantage was that it called for a good deal of chemical knowledge and manipulative skill on the part of the operator and necessitated the transport of a sort of portable dark room, in which the plates could be sensitized immediately before and developed immediately after exposure.

In 1871 a certain Dr. Maddox, from Southampton experimented with the use of gelatine as a medium for coating the plates, and devised a new process. Instead of coating his plate with gelatine and then following the old routine of sensitizing it, he emulsified the sensitive silver salts with gelatine and coated the plates with this emulsion. It was found that the plates remained sensitive after they had dried and thus was created the first dry plate. This process was commercialized and a fairly successful product put on the market.

Experiments for obtaining suitable sensitive papers on which the negatives obtained in the camera could be printed, went hand in hand with those for obtaining the negatives. Various types utilizing silver and other salts came into being, one by one, the most valuable being the really beautiful platinotype process of William Willis in 1873. Eventually Bromide paper, which is still used to-day, though in much improved and more sensitive forms, came into being for practical usage in the 1890's.

From the introduction of the dry plate and Bromide paper progress became comparatively faster. The old dry plate was slow,· though extremely fast as compared with the collodion process, and was not very sensitive to some colours of the spectrum, while being extremely sensitive to the blues, and completely insensitive to red. Improvements fallowed when it was discovered that by boiling the emulsion before coating the plate it became more sensitive. A limit had to be set to this however as though the longer the emulsion was "cooked" or ripened as it was called, the more sensitive it became, yet it was found that the emulsion grains grew in size and imparted a graininess to the picture. This can still be seen in some pictures to-day when the enlargement is taken over a very large magnification, especially if the processing of the materials is done by unskilled operators. It was later discovered that by adding, in carefully controlled amounts, a certain sulphur compound - if you want to know the name it is *allyl-isothyocyanate - to* the gelatine it greatly increased the sensitivity without the necessity of having to ripen the emulsion over long periods; and thus very fast

plates could be produced with a minimum of grain size. It was also discovered that by adding certain coal tar dyestuffs to the emulsion it increased the sensitivity of the emulsion to the reds and thus was produced the panchromatic or all colour plate. Experiments in this direction are still being pursued to even the sensitisation of the emulsion to colours beyond the visible spectrum, one of the more recent developments of these being the introduction of the infra-red sensitive plate in 1926.

Let us look now a little at the evolution of the camera. We saw that the *camera obscura* was really a large box with a hole in one wall and a whitened ground on the other, Later on this hole was replaced by a lens, and the necessity arose of being able to focus the lens by bringing it nearer to or farther from the back wall. In the early days of the calotype, Daguerreotype, and wet collodion process this was effected by making the camera neatly of two boxes, one sliding within the other. In 1854 however one Captain Fowkes of the Royal Engineers introduced the use of bellows, and this having lightened the camera and made it more portable, endeavours were made to produce a folding camera which appeared in increasing numbers after 1860.

Although photography has always attracted the serious type of amateur modern amateur photography, or snapshooting, dated from 1888 when George Eastman, the creator of the roll film, introduced his first Kodak. This was a small fixed focus hand camera taking a circular picture. It was quickly superseded by improved models, which were manufactured in large numbers and marketed all over the world. With the introduction of the roll film, which is the same as the glass plate in so far as the emulsion goes, but with the use of celluloid instead of glass, and the rise of the commercial processer, together with the slogan "you press the button we do the rest" the ranks of the snapshotter quickly grew in size.

The latest development in cameras however came in 1930 when the precision made camera taking very small miniature pictures appeared. This opened a new era in photography and brought into being a new technique of photography.

I have tried to show you how the gradual development of photography to the state of perfection now attained was a story of experiment, trial and error research, inspiration and above all hard work. But it has been worth it. Apart from the different. phases in its service to mankind, it is as a hobby for the amateur that it claims the interest of the greatest number of camera users. The camera is the constant companion of the holiday-maker and the traveler and serves to record every personal incident and accident. The amazing growth of photography can be indicated if we lock at certain figures given in 1936 or thereabouts. The raw materials required then annually in the manufacture of the world's photographic materials amounted to more than 500 tons of pure silver, 6,000 tons of cotton for film base, 3,000 tons of specially prepared gelatine, and over 12,000 tons of wood pulp for the production of paper. Over half a million miles of film a year are consumed in the making of motion pictures, 1,500 tons of film are used by amateurs for their snapshots, another 7,000 tons of paper to print them on, while 8,000 tons of film, 8,000 tons of glass plates and 9,000 tons of paper are used to make portraits and advertising pictures.

One other phase of amateur photography is the creation of a new art, which has enabled the serious worker to express his emotions in a picture as apart from a pure record in a similar way to the artist with his pen or brush. But let us turn to what some may call the more practical applications of photography today.

The illustrated press depends almost entirely on photography for the pictures it presents to its readers. Not only are the pictures in the first place secured by the camera but it is a photographic process which converts them into printing blocks to enable them to be put on the printed page. Then what about the cinema? This, which has grown gradually to the state in which we find it to-day, is also photography with a special form of camera and projection apparatus, but millions regard the movies in much the same way they regard their daily paper; yet take away photography and all the cinemas in the world (and an enormous industry) would disappear. In addition to being entertaining, the cinema also serves a useful purpose in the educational and scientific world. To take one example:- By a special manner of operation, which is known as slow motion, rapid action is slowed down so considerably that individual movement can be analysed in detail. It also plays a great part in medicine and commerce especially in its sub-standard form, which form has also made it possible to bring the movies into the home and has provided a further hobby for thousands of people. I wonder if it is also realised that the introduction *0,1'* sound into the cinema is another achievement of photography. What is clone is really the conversion of sound energy into light energy which is photographically recorded on a narrow sound track on the cine film itself for re-conversion again into sound as the picture is being projected. A further development in photography which has greatly benefited the cinema is the production of colour by direct photography. This in itself would provide enough material for another article.

Another modern application of photography which is becoming universal is its use in advertising, gradually displacing the draughtsman-artist. In practically every phase of industry photography plays its part to-day; to tell you every detail of every phase would require much more space than is available to me. We find that it helps in the production of the clothes we wear, the furniture we use, and the food we eat. It is employed in testing the water we drink and even the air we breathe. To take a few examples: The British Boot, Shoe and Allied Trades Research Association use photography and X-Ray work extensively in producing more comfortably fitting shoes; photographic records are made regularly of feet in various positions and this has done a lot towards the modern mass-produced shoe. A great part is also played by photography in producing artificial silk; photomicrographs show how far the cellulose threads measure up to the natural product of the silkworm and by repeated experiments the progress is not only brought up to, but kept at, a high state of perfection.

The use of photography to produce and apply patterns to linoleum has reduced the cost of that article to a great extent; the same idea is used in the furniture and wood trade. Photographic images of the grain of expensive woods have been printed on to a cheap plywood base, thus imitating finely figured woods. The results are remarkable and permanent and the cost is small. Photography has even penetrated into the kitchen to help make our food better; to take one example, by taking X-ray photographs of a

cake while making it, it can be seen that different qualities of baking powder produce different sized bubbles of gas. When these are too big air passes and the cake is dry. Other varieties of baking powder produce smaller bubbles more evenly distributed and keep the cake moist. Big catering concerns use this photographic data for making their cakes better. In agriculture also the effects of fertilizers on crops, etc., have been photographically recorded and this gives valuable information for future treatment on different kinds of sail. In building operations and with mass produced machinery and in the engineering industry generally photography is being used more and more to replace elaborate and costly plans, for obtaining accurate records of construction and for comparisons of designs, etc. In metallurgy the combination of the camera, microscope and X-rays has become almost indispensable. Minute inspection by this means of the properties of the material used in the construction of steel girders, aeroplanes and engines discloses hidden flaws; and routine work of this kind in these industries enables more perfect products to be obtained. The big railway companies use photography to record everything concerning their rolling stock from the very first detail of construction to the finished locomotive and these records together with photographic tests of the materials ensure better production and safety. And what about medical practice? Photographic records play a very important part apart from X-ray work. Ordinary camera photography is definitely established as normal routine in large hospitals for recording details of interesting cases, surgical operations and special treatments, the photrgraphs providing an accurate pictorial sequence of progress; and in bacteriological research photomicrographs are not only of value as records of particular cases, but have untold value in the benefit they give students, and their use to illustrate medical works. The war has brought to our notice the use of photography in aerial reconnaisance, but this is also a peace-time use. Aerial photography can help a lot towards alleviating the hard work of the surveyor in the field, by bringing the topography of the country into his drawing office. It also helps in that very drawing office in the use of copying plans and maps and in the adjustment of errors, the reduction and enlargement of various plans. With the use of photography 30 sections of plans can be reduced and adjusted to a map in one week where by the use of ordinary drawing office equipment that would require three weeks to reduce one section. There is also the modern method of copying called micro-filming, known to you better as V-mail. To give you a concrete example where this has been of use. A copy of certain reports was required in a hurry. A good typist estimated that it would take 3 weeks work to type them, it would take another two weeks to draw the diagrams and sketches contained; but this is what happened, the request was received on a Thursday afternoon and by Friday afternoon they were handed over to a courier who left by air on Saturday morning and the reports were in Washington a few days later - and at a cost of only nine shillings - and with the complete assurance that there had been no mistake made in copying.

I mentioned before improvement in photographic materials, to such an extent as to produce sensitivity to light both above and below the visible spectrum. This development has to a great extent also increased the applications of photography. In aerial photography it is used for the extinction of haze and mist and thus extends the camera's range to enormous distances. It is also used in deciphering the writing on valuable papers that have become burnt or charred; it is used in the detection of forgeries, in the deciphering of old manuscripts, in comparing the constituents in various

materials in the textile and food trade. It has also found an application in the diagnosis of certain diseases, as the rays have the property of penetrating the skin and recording the layers beneath in a different manner from X-rays.

Photography has also been able to record high-speed movements beyond the capacity of the human eye to observe, for instance the photographs of bullets in flight taken with the aid of an electrical spark at 1/1,000,000 of a second. There are so many more applications that I could go on for a very long time; the part it plays in the detection of crime, its use in the law courts, its penetration into the innermost secrets of nature which helps the natural history student, its use in astronomy in the making of star charts and so on, but by this time I am sure you have had enough and would like to take all that for granted. But with all that there is one thing that disappoints us keen photographers, and that is that there is no recognition of all I have written of. What do I mean by recognition? Well we have seen that there is scarcely an industry in which photography does not play its part in essential control; there is no science in which it is not important, whilst many discoveries and essential scientific routines could not have existed without it. In medicine, in our books, newspapers, and cinema, photography plays a vital part. As a matter of fact it could be said that in no direction could the activities of life continue undisturbed if the assistance of photography were to be withdrawn; and in many directions - by no means the least, the efficient conduct of modern warfare - they would cease altogether. And yet what do we see, in no single university is there a chair of photography. Skilled photographic workers in Government service are paid wages that other skilled craftsmen would refuse. We also find that at the beginning of the war - and maybe still - volunteers for national service in their photographic capacity were dealt with as unskilled workers, and as the 1939 British Budget revealed, photography meant to the politicians only so many million snapshot spools to be taxed. It is true that in the past it was not inapt to call this daughter of chemistry and optics the "Cinderella of the Arts" but today has she not become the "Princess" and should not the world pay its tribute to her in her palace of light?

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