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THIRD PRIZE

Put Away the Best on this.
Royal Empire Society. Subject

Essay competition - 1952.

Class A.

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"What have scientists and other research workers contributed to the development and welfare of the British Colonial Territories?"

Summary of Essay.

Introduction - the British Empire as a "mighty procession". The Colonial Territories as a section of this Empire. The "trust" of Britain on behalf of the colonies and the inseparability of the application of science from the discharge of this trust.

What is being done - Colonial Research Council estimates - as proof.

What has been done - crop experimentation in Cyprus, tsetse battle in Kenya, mineral development in Uganda, anti-mosquito campaign in Mauritius, hot climate physiology in Nigeria, aerial mapping in Gambia, organism research in Trinidad, and social research in Jamaica - all as examples.

Other examples of scientific research.

Science and the early development of the Colonial Empire.

The results of the application of science - both material and intangible results.

The place of the Colonial Territories in the development of the Empire. The policy towards the Empire because of this place. How science has enabled Britain to discharge the trust created by this policy.

How Britain has kept the first law of human conduct in discharging this trust.

Conclusion - the Colonial Territories as a monument to scientists and research workers.

Sir A. Zimmern
"The 3rd Brit. Empire"

"The British Empire - a procession of territories in different stages of development"

This true and remarkably apt metaphor has been applied by an eminent historian to the glorious family of nations of which we are proud to be members. A wonderful procession - of white, brown, yellow and black men; of Christians, Moslems, Hindus, Jews and Parsis; of self-governing and non-self-governing territories. Girdling the globe, it is the greatest force for good that the world has ever seen; it has brought, under one law, a quarter of the world's inhabitants; alone all it is founded on love and kindness, understanding and freedom.

"If, as I believe, the British Commonwealth survives all its present difficulties..... it will be because its foundations are securely laid on the rock of human understanding..... We have tried to be true to the rules of life, not

Sir A. Zimmer
"The 3rd British Empire"

simply to the laws of politics and constitution-makers."

In this procession, sprinkled across the globe like diamonds on black velvet, lie the British Colonial Territories. Over the development and the welfare of these territories (which I shall take to be those members of our Empire which come under the jurisdiction of the Colonial Office, London) Britain has always exercised special care.

Kenya White Paper
1923

"His Majesty's Government regard themselves as exercising a Trust on behalf of the... population, and they are unable to delegate or share this Trust, the object of which may be defined as the protection and advancement of... races"

Inseparable from the "protection and advancement" of peoples, is the application of science to those people and their problems. Thus, wherever we find members of our colonial Empire, we also find scientists and other research workers, all engaged in work which is designed to improve the

welfare of those members, or
to increase the development
of their country.

A glance at the annual
balance sheet of the Colonial
Research Council should fully
convince us that much is
being done - we must then
visit the territories concerned
to find what has been done.

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"Pest Infestation Survey : W. Africa	1,420
Research into cause of "sudden death" : Zanzibar	49,960
Rice Research : Nigeria	65,000
Investigation into Poliomyelitis : Mauritius	80
Timber Research Station : Malaya	89,200
Sociological Research : Uganda	165
Cocoa Research at I.C.T.A : Trinidad	140,000

In the pleasant Mediterranean
island of Cyprus, where the
relics of an adventurous past
meet the symbols of a pro-
gressive present, experiments
in sorghum growing are one
example of science's aid to
the territory. Arid areas,
where rainfall is insuffic-
ient and irrigation unavail-
able, have dotted the land-
scape - but today waving crops
of sorghum gives testimony
of the persistence of science

For in these waterless areas local scientists planted seven varieties of maize, supplied by the Food and Agriculture Organization - then watched and waited. Today the growth of the best varieties in the most suitable areas has built up a new industry, enabled new quantities of pork to be exported to Britain, and put into use many acres of previously unproductive land.

Two thousand two hundred miles south of Cyprus lies the relatively underdeveloped, plateau colony of Kenya. Here, the unique battle of man against fly has been waged by scientists of repute on behalf of the peoples. The scientists - Doctors Gurd, Dary and team of Manchester - the enemy - the blood-sucking, tripping, spreading tsetse fly. This small insect has prohibited "cattle raising over an area of four-and-a-half million square miles" - a huge area. Today there is every chance that large herds will soon

G.B.C. Broadcast Talk
"Man against Fly"

graze this tract of land; -
 due to the discovery of "4828,"
 a drug which acts both
 as a cure and as an
 immunization against the
 form of aggravated anaemia
 caused by the fly. After
 extensive and laborious research
 into methods of eliminating
 the fly (clearing bush,
 D. D. T. air-spraying and
 the destroying of game),
 long laboratory work discovered
 this powerful and revolution-
 izing drug. In the future
 that is now dawning, huge
 tracts of land may be
 used for the first time,
 a new industry, employing
 millions of natives created,
 and a life bringing surplus
 of meat made available for
 British consumption.

Adjoining Kenya, on the
 west, is the territory -
 smaller, tropical and well-
 watered - of Uganda. Its
 population of under four
 million is today assured
 of prosperity - the combin-
 ed efforts of geologists
 and engineers have made
 this possible. In the
 "Mountains of the Moon."

region, geologists and aerial surveyors combined, several years ago, to completely chart the surface and rock structures. The result - a huge potential source of copper and cobalt has been developed, which, if properly exploited, may make Uganda the richest mineral colony. Two companies - Frobishers of Canada and Rio Tinto Mines of London have now combined to exploit these and other mineral deposits, also to build, in conjunction with the government, a huge hydro electric power station at Ower Falls; railways and refineries near Kileleshwa. Engineers have had many difficulties of terrain, climate and rock structure to overcome, but their triumph, no less than that of the geologists, will add immeasurably to the wealth of Uganda; and thus to its peoples prosperity and well-being, in addition to greatly aiding the country's development.

Syng in the Indian Ocean, five hundred miles east of Madagascar, is the beautiful, well-watered, mountainous island of volcanic origin - Mauritius. For many years the occurrence of malaria in this peaceful island was not rare. Today it is rare, owing to the combined endeavours of three hundred and fifty workers, led by a malarologist, an entomologist, and a chemist from England. During the experiments which were performed, the island was divided into six areas, each containing approximately seventy thousand people. In each area the inhabitants and mosquito breeding-places were sprayed with different compounds. Spleen rates and mosquito numbers were noted, and thus the best types and quantities of sprays evolved. This methodical approach, and combination of scientific knowledge has now enabled the malaria rate to be drastically reduced, thus materially increasing

the standards of health and working, on the island.

On Africa's west coast, in Nigeria, once the "White Man's Grave," an interesting scientific investigation has greatly increased the welfare of the native peoples. Here, Dr. W. S. S. Sadell has carried out investigations into hot climate physiology. Observations in railway workshops, tin mines, palm oil factories have led to changes in building construction, which are for the benefit of the workers.

For instance: installation of fans, exhaust systems, and the white painting of reflecting surfaces, in factories; the improvement of ventilation, cooling systems and clothing, in houses — all this has meant less fatigue for everyone concerned. Ceremonial dress and the desire for security (as shown in the lack of windows) contributed to the raising of heat in dwellings. Elimination of these and other fatigue producers has meant better working.

conditions and health standards.

Across the Bight of Benin from Nigeria is the colony of Gold Coast. The ninety-two thousand square miles of the territory consists of Gold Coast Colony, the Northern Territories, Ashanti and Togoland. In the colony, an extensive soil survey, which has been carried out, now means that the best possible use is made of every acre of land, by planting the most suitable crops and treating those crops with the correct fertilizers. Scientists from Gold Coast and from Rothamstead Experimental Station, in England, combined to map the existing land use and soil types. Sample crops were then planted, treated with fertilizers and the results noted. The success of these experiments has enabled all areas of the colony to be used in the best manner possible and the correct fertilizers applied to each crop. To the population have now

come increased and better quality yields - leading to better health, standards of living; and prosperity to the whole colony.

Across the Atlantic - to the prosperous, progressive island of Trinidad - science continues its work. Amid tropical scenery, the Colonial Microbiological Research Institute now performs much experimental work for the good of all parts of the Colonial Empire. A typical problem in the life of this six laboratory, modern, air conditioned establishment will serve to illustrate the statement that has been made of its aims - to devote its "energies to fundamental research in microbiology; to applying the results of its investigations, and to assisting agricultural and other industries in improving their products." The problem - the destroying of flavour and colour in cocoa beans by minute organisms. Intensive study of these

"Annual Report on
Colonial Research"

organisms has proved that certain of them produce toxic substances which may kill the young beans, or decompose the pigments. Having identified the cause of trouble, the scientists were then able to develop methods for its destruction. Today the safety, and the prosperity, of the cocoa industry in Trinidad, and in neighbouring Grenada, is assured.

W. E. Simmett.
"The Brit. Colonial Emp."

In the lovely island of Jamaica, with its "rushing streams, verdant scenery and thick forest" - research workers have allowed the government to improve the conditions of the peasant - in health, employment and cultural spheres. The "Sociological Study of the Peasant Community in Jamaica", undertaken by Miss Edith Clarke and her team, provided a complete picture of the living, working and recreation life of the peasant. From the detailed inform-

ation, contained in it, the authorities have been able to frame statutes and laws which aim at equalizing the respective standards of the peasant and of the "upper classes." Thus, scientific research has appreciably bettered the life of at least one class on this island.

These few examples are only representative of many triumphs, over the centuries, of British colonial administration.

A list of those successful experiments and research works, which have brought happiness and prosperity to the colonial Territories, reads as a testimonial of Britain's care, and of science's indefatigable patience.

Trinidad - research into the use of sugar by-products; British Guiana - exploitation of bauxite (aluminium ore) deposits; Singapore - use of marginal lands;

Falkland Islands - census investigations; Aden - fisheries research; East Africa - locust control; Borneo - mosquito eradication; Zanzibar - social survey; Honduras - forestry protection; Gold Coast - pest eradication - these are merely the unexpressed headings of ten major scientific successes (all taken from colonial research records), the full details of which could be quoted.

These, and thousands of others can be listed as conclusive proof that, down the centuries, Britain has always remained faithful to her ideals - and to the "laws of humanity". She has always sought to develop territories to the advantage of its inhabitants, and to provide for the welfare of those people. Although most of the colonial empire has not been in British hands for more than one hundred and fifty years, those

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years have been used to the best advantage of the territories concerned.

Admittedly, the examples of scientific achievement, that I have fully quoted, have taken place in the last fifty years. However, this is only the natural result of the progress of science in that period; - that scientific achievement should be so great. Nevertheless, if we go back into the dim beginnings of colonial history, science does not fail us.

In all the colonial Territories scientists and research workers have always followed closely on settlement. Botanists, geologists, physicists, health workers and chemists must form part of every progressing country. Where there are empires there must be progress, if those empires are to survive. With progress there must be science, or all will fail. Therefore science and its application has

always been vital to established communities. In the earliest of colonial records may be found descriptions of scientific investigation - into land use or mineral potential, building construction or health precautions. Down the generations the pattern runs - of scientific endeavour on the behalf of dependent peoples. It is a glorious gold thread in the history of the Empire - a history which is ever woven on the loom of time.

Can we fully assess what science has done for the colonial Territories? That would be extremely difficult, for science has been applied in so many diverse fields. Let us, however, remove from the history of the colonial peoples the application of science. The results?

Firstly - the material result. Without the application of science the colonies would not exist, today. Only by

progress, development and achievement, in this modern, and ever-changing, world, can a country survive. Scientists and research workers have enabled the inhabitants of the colonies to use their existing resources to greater advantage, to exploit new, and to revive past. They have been given better houses, clothing, food, transport facilities and communications. Their recreation and work, their sleep and relaxation, have all been made more pleasant; their amenities of work-place and home more modern. They have been allowed, by the grace of science, to live a longer, happier, and more useful life under British rule. Their sons have been taught and instructed in the ways of a western world, to allow them all to live in a generation that will be proud of its territory.

Secondly - those intangible results, which no

yardstick of progress can ever measure. Without the development of communications, the bonds of loyalty between the members of the Colonial Empire would never have been forged. Without the common fund of scientific knowledge, the means to apply it and the problems upon which to use it, the territories would have never come to mutual understanding and mutual aid; two of the qualities that have saved our Empire from disintegration where others have fallen.

These men of science have not only applied themselves to the fields of chemistry, physics, geology, social science, microbiology and physiology but to such diverse sciences as cardiology and climatology, entomology and ethnology, ornithology and osteology. Such fields as the science of government and of transport, of forestry and of mining, of fishing and of education, have also received metric.

ulous attention, leaving no avenue unexplored in the search to apply all the branches of science for all races of mankind.

Now let us turn to the history of the Empire and examine the position, in it, of the Colonial Territories.

The history of the development of the British Empire falls naturally into three distinct phases:

1. That empire on the Atlantic coast of America, which was lost in 1776.
2. The Second British Empire which extended the borders to include the dominions of today, as well as certain of the colonies. This empire was founded on British sea power.
3. An empire which may be termed the Third British Empire - established since 1870, mainly in tropical areas, today, not self-governing.

Of these the first has passed on in the procession of time, the second is in full view, the third is

slowly making its way towards the goal of independence.

Of the policies towards these three empires, the one pursued in respect to the third has been the most clearly defined.

As British men and women went out to found new colonies they realized the principle that British constitutional rights were not the exclusive privilege of Britain (and her descendants at home and overseas) but belonged to all those under the British flag, who were equal to the responsibilities entailed by those rights.

Therefore, the policy towards the colonies was - "self-government when the peoples concerned were in a state that showed that they were ready for it."

In pursuance of this policy Britain has always done her duty - "to make peoples ready." By the application of science she has raised them from states of barbarity and of primitiveness, to be cultured

and educated peoples.

By employing her men of science she has been able to discharge the greatest trust that any nation could have had placed upon her - the trust of one quarter of the globe.

The Colonial Empire, that history will record as standing today, will be proof that, by employing the greatest tool of progress - science, Britain has maintained the first law of human conduct.

"Everyone is entitled to all the rights and freedoms set forth in this declaration with distinction of no kind, such as race, colour, sex, language, religion, political and other opinion, national or social origin, property, birth or other status.

Furthermore no distinction shall be made on the basis of political, jurisdictional, or international status of the country or territory to which a person belongs, whether it be

"United Nations Decl. of
Human Rights"
Article 2, Sections
1 and 2.

independent, trust, non-self-governing or under any other limitation of sovereignty."

To the tireless energy of those scientists and other research workers, who have made possible the honourable discharge of this sacred trust: that is to develop, and protect the welfare, of the Colonial Territories — to these people the territories stand as a monument — for ever. Without them the "diamonds sprinkled across the earth" would not sparkle.

Approximately 2,600 words.

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