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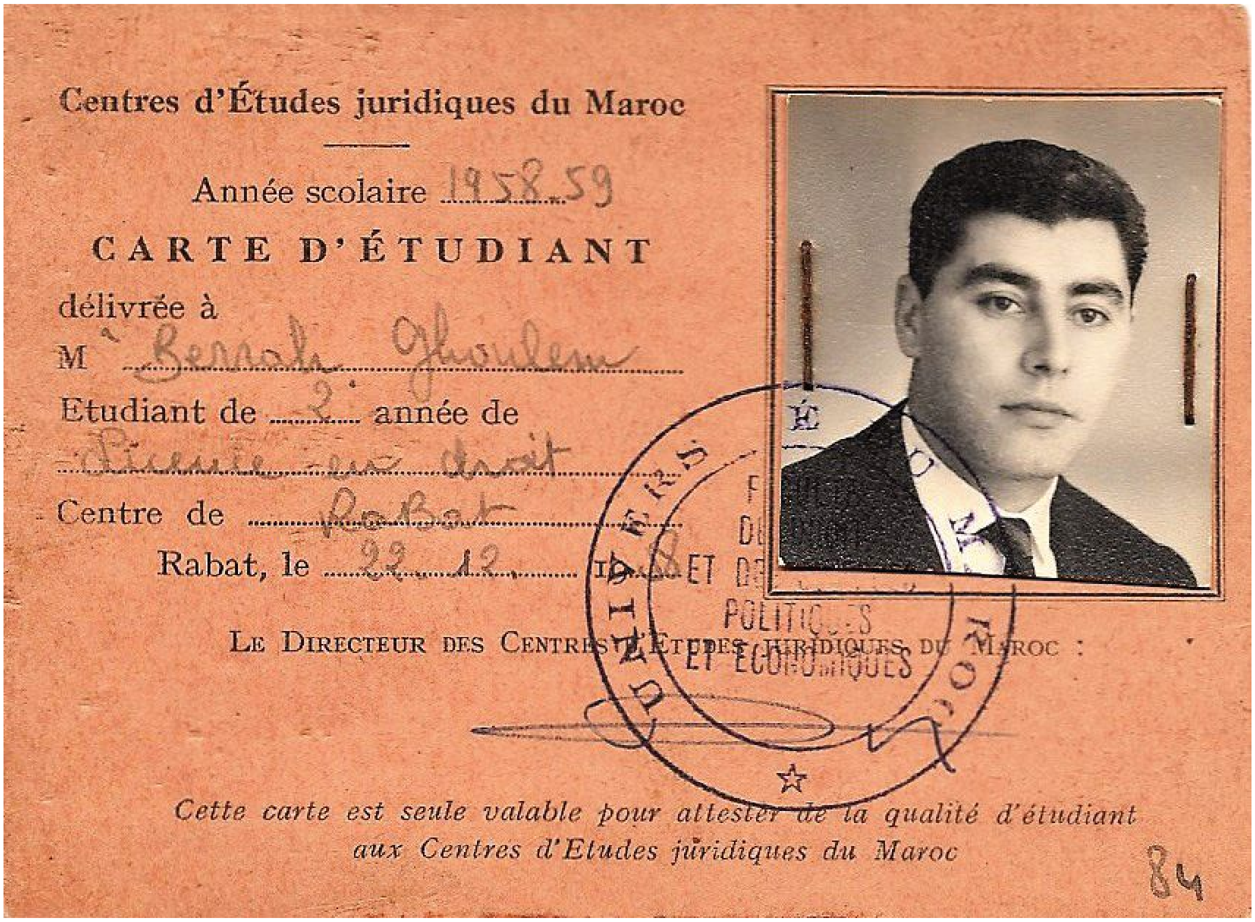
Mr. and Mrs. Hassar



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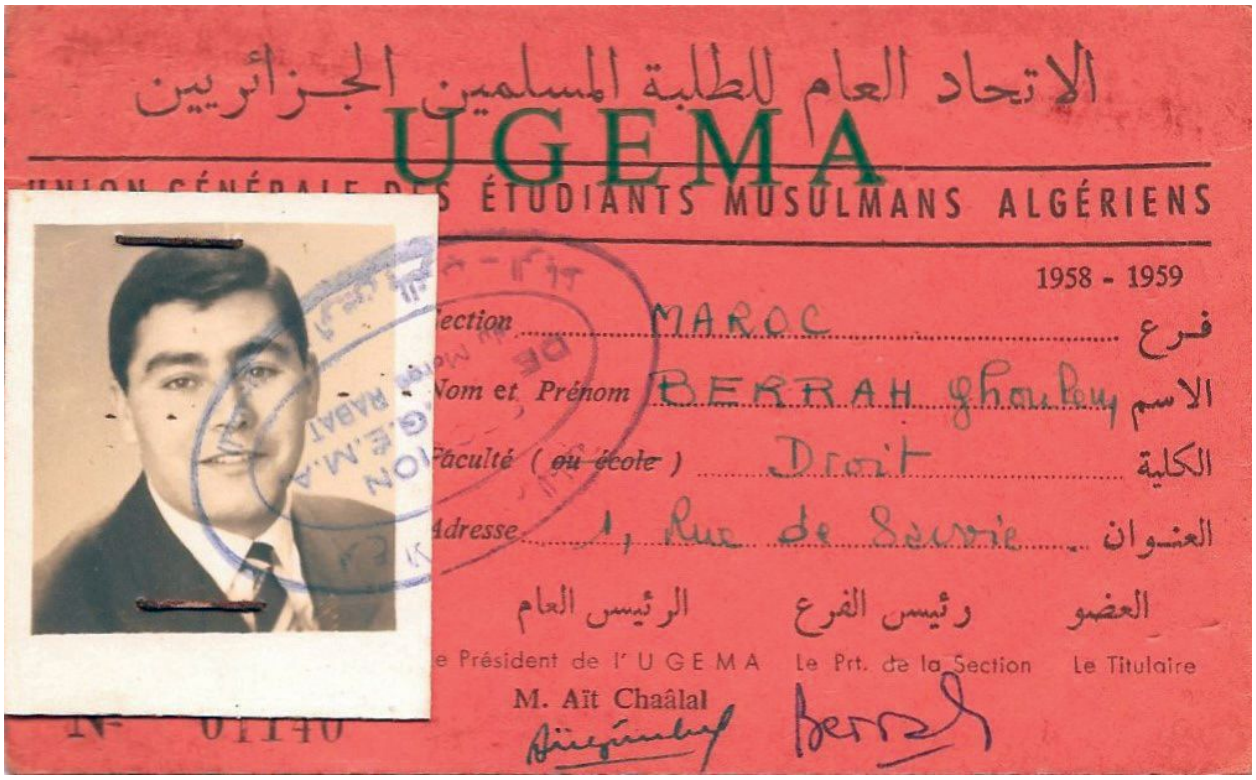

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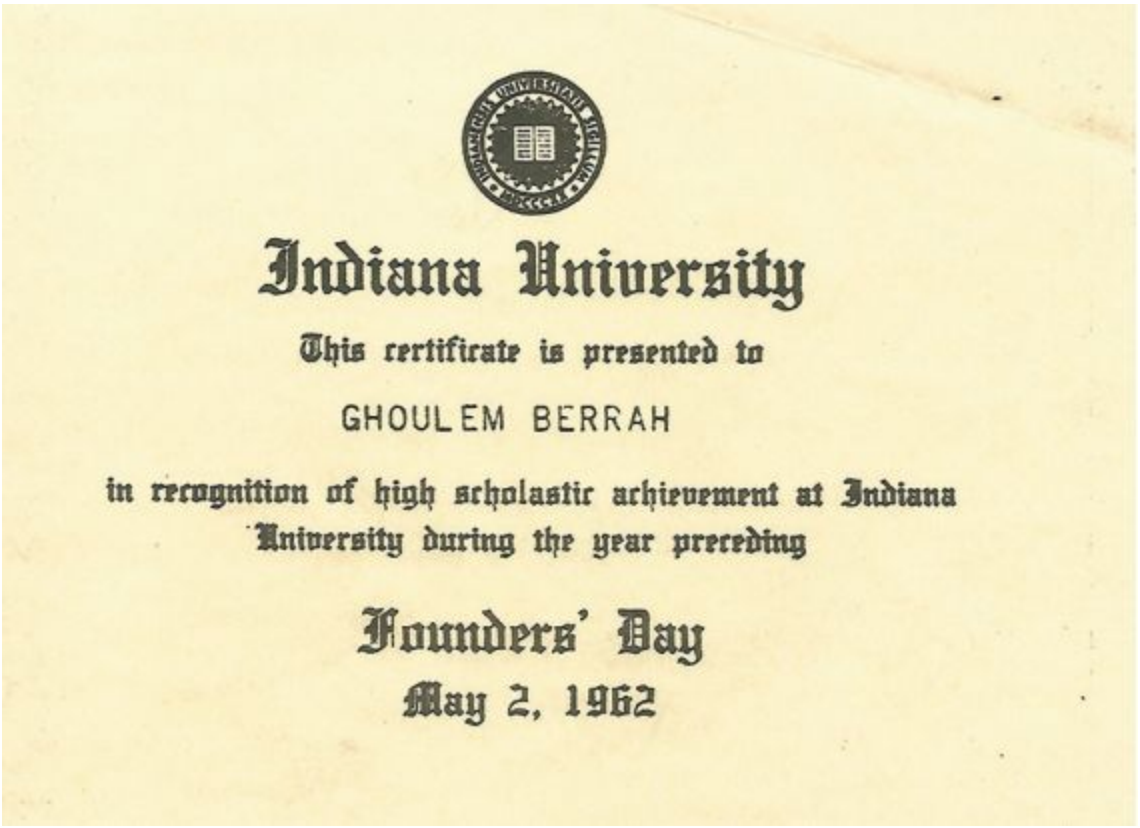
Dr. Walter Konetzka



Indiana University

This certificate is presented to

GHOULEM BERRAH

in recognition of high scholastic achievement at Indiana University during the year preceding

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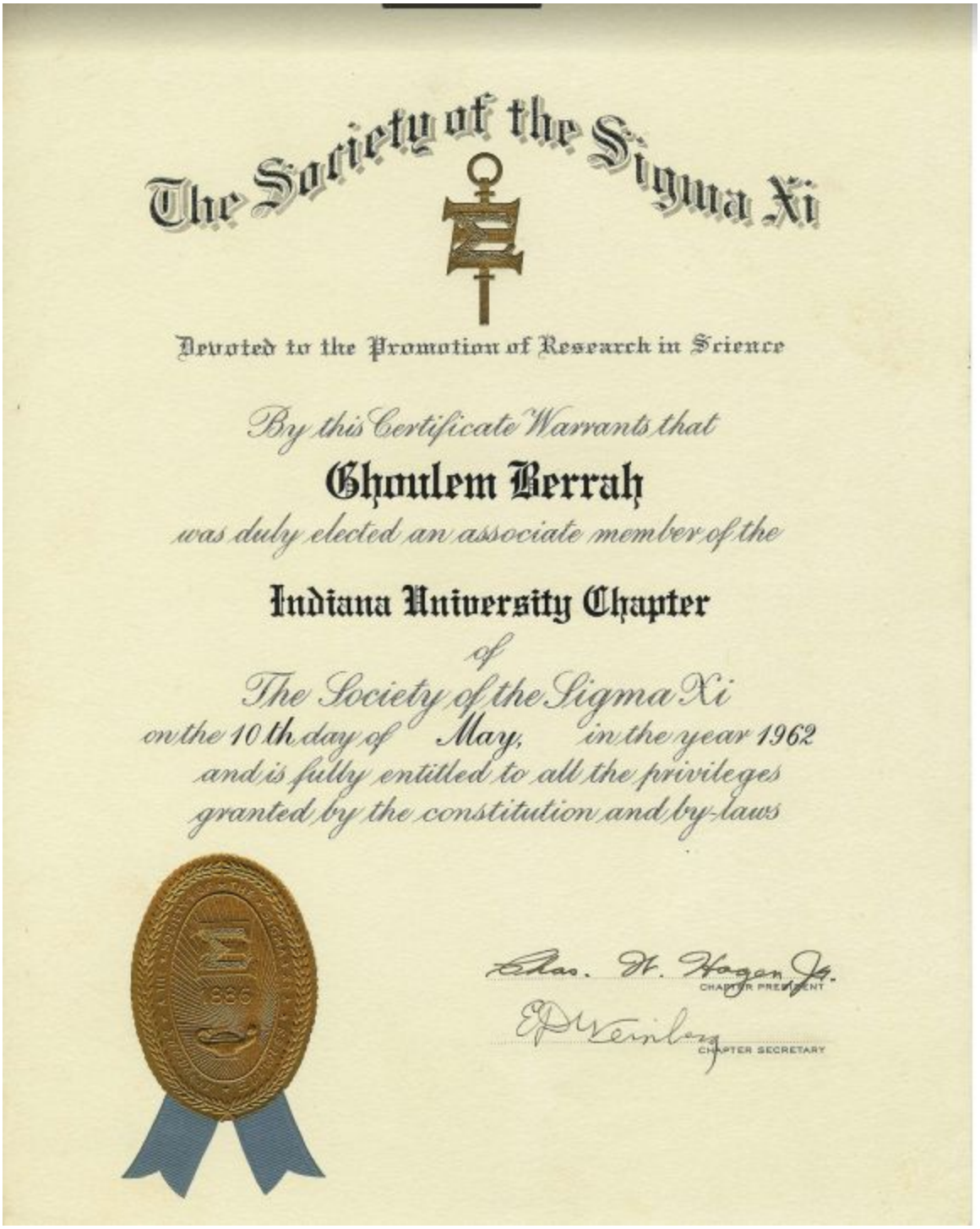

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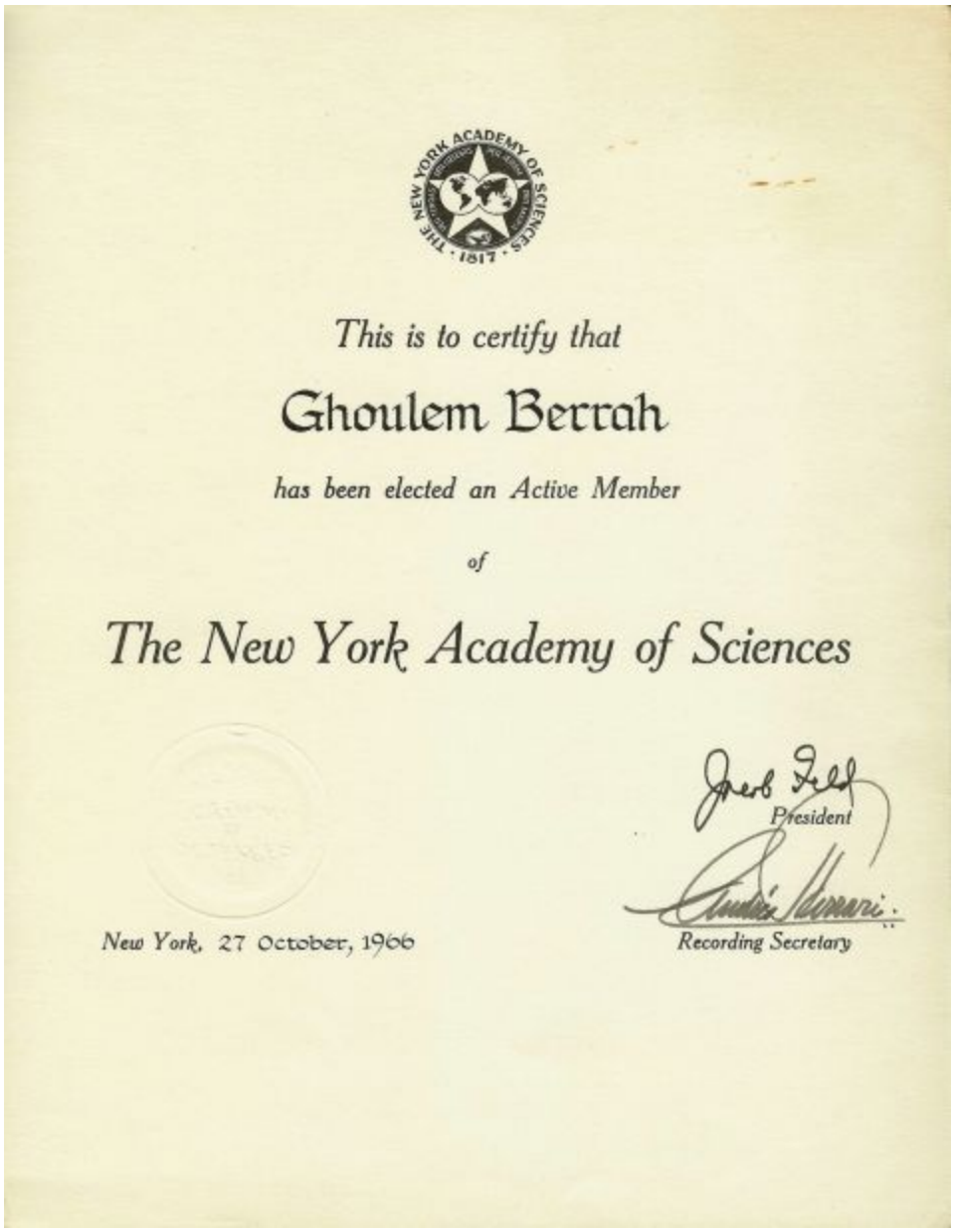

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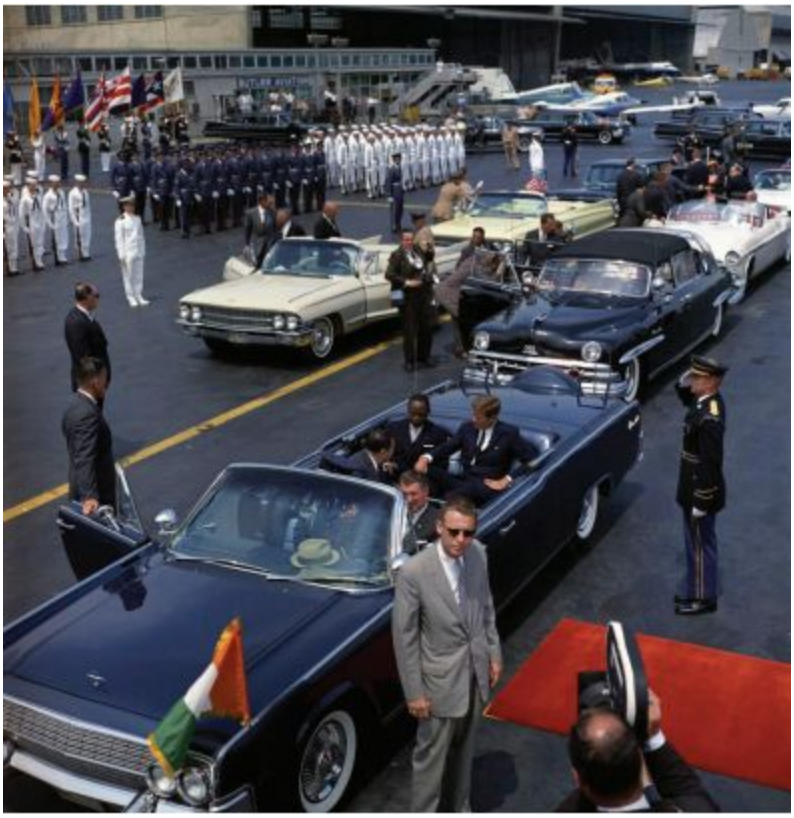

Dr. Walter A. Konetzka
September 8, 1923 - August 23, 1992

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Vol. 83, No. 4, pp. 738-744 April, 1962

SELECTIVE AND REVERSIBLE INHIBITION OF THE SYNTHESIS OF BACTERIAL DEOXYRIBONUCLEIC ACID BY PHENETHYL ALCOHOL

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Received for publication October 11, 1961

ABSTRACT

BERRAH, GHOULEM (Indiana University, Bloomington) AND WALTER A. KONETZKA. Selective and reversible inhibition of the synthesis of bacterial deoxyribonucleic acid by phenethyl alcohol. J. Bacteriol. **83**:738-744. 1962.—The selective inhibitory effects of phenethyl alcohol on gram-negative bacteria were confirmed with a variety of species. At a concentration of 0.25%, phenethyl alcohol was bacteriostatic for gram-negative bacteria; gram-positive cells were unaffected. *Pseudomonas fluorescens* required higher concentrations of the compound for inhibition than did the other gram-negative bacteria, and the gram-positive, acid-fast mycobacteria resembled the majority of gram-negative bacteria in sensitivity.

In the presence of phenethyl alcohol, gram-negative cells formed long filaments. There was no net synthesis of deoxyribonucleic acid (DNA) in such cells, whereas protein and ribonucleic acid (RNA) syntheses were unaffected. Upon removal of phenethyl alcohol, multiplication of the cells immediately ensued, with concomitant DNA synthesis. Yeast extract stimulated both RNA and protein synthesis in phenethyl alcohol-treated *Escherichia coli*, but no detectable stimulation of DNA synthesis occurred under these conditions.

In 1953, Lilley and Brewer suggested the incorporation of phenethyl alcohol in nutrient media as a means of selecting for gram-positive bacteria from mixed flora. Phenethyl alcohol at a concentration of 0.25% in Trypticase soy agar completely inhibited the growth of seven gram-negative enteric organisms; under the same conditions, *Staphylococcus aureus*, *Streptococcus faecalis*, and *Diplococcus pneumoniae* formed colonies.

Because phenethyl alcohol is one of the few compounds which is more inhibitory to gram-negative than to gram-positive bacteria, this investigation was undertaken to determine the mechanism of the selective inhibitory action of phenethyl alcohol on gram-negative bacteria.

MATERIALS AND METHODS

Bacteria. The bacteria employed were obtained from the departmental stock culture collection and are listed in Table 1. Stock cultures on Trypticase soy agar slants were maintained at 5 C and transferred biweekly.

Preparation of inocula. Erlenmeyer flasks (50-ml), each containing 10 ml of Trypticase soy broth, were inoculated from the stock culture and incubated on a shaker for 18 hr at 37 or 30 C (depending on the optimal temperature of the bacteria). From these cultures appropriate dilutions were made in Trypticase soy broth, to obtain the desired initial cell concentration for a particular experiment.

Growth determinations. Viable counts were made by dilution of the cultures in sterile distilled water at room temperature and by spreading 0.1-ml samples on the surface of Trypticase soy agar plates. The colonies which developed were counted after 48 hr of incubation. Total counts were determined with a Petroff Hausser counting chamber. When turbidimetric measurements were desired, the cultures were grown in side-arm flasks consisting of a 250-ml Erlenmeyer flask to which an optically calibrated 18-mm test tube had been attached. The optical density of the cultures was determined in a Coleman Universal spectrophotometer at a wave length of 660 mμ.

Chemical assays. Samples (40-ml) of cultures of *Escherichia coli* H treated with 0.25% phenethyl alcohol were chilled and washed twice with cold distilled water. The washed cells were extracted with 10 ml of 0.25 N perchloric acid at 0 C for 30 min. After centrifugation, the pellet was extracted twice with 4 ml of 0.5 N perchloric acid at 70 C for 15 min. The combined extracts were used to assay for ribonucleic acid (RNA) by the orcinol reaction (Mejbaum, 1939) and for deoxyribonucleic acid (DNA) by the diphenyl-

amine reaction (Burton, 1956). The pellet from the hot perchloric acid extract was dissolved in 1 N NaOH at 90 C for 30 min, and protein was determined by the method of Lowry et al. (1951). Purified salmon-sperm DNA, purified yeast RNA, and bovine albumin were used as standards for DNA, RNA, and protein, respectively.

Phenethyl alcohol. The phenethyl alcohol was obtained from Matheson Coleman and Bell (lot no. 343248). After passage through a sterile sintered-glass filter, the compound was added to sterile medium to give the desired concentration. Any solution added to a culture containing phenethyl alcohol was prepared to contain the same concentration of phenethyl alcohol, to avoid dilution of the compound.

TABLE 1. *Effect of concentration of phenethyl alcohol on bacteria grown on Trypticase soy agar*

Bacteria	Concn of phenethyl alcohol				
	Control	0.1%	0.25%	0.35%	0.5%
Gram negative					
Acetobacter gluconicum 9.4*	+†	+	−	−	−
A. perozydans 10.2*	+	+	−	−	−
A. xylinum X*	+	+	−	−	−
Aerobacter aerogenes 45	+	+	−	−	−
A. aerogenes 68	+	+	−	−	−
Chromobacterium violaceum X	+	+	−	−	−
Escherichia coli B	+	+	−	−	−
E. coli H	+	+	−	−	−
E. coli K12	+	+	−	−	−
Erwinia amylovora S	+	+	−	−	−
Klebsiella pneumoniae 56	+	+	−	−	−
Neisseria perflava 12	+	+	−	−	−
Proteus mirabilis H1	+	+	−	−	−
P. morganii A	+	+	−	−	−
P. vulgaris 1	+	+	−	−	−
Pseudomonas fluorescens X	+	+	+	+	−
Rhizobium japonicum UW	+	+	−	−	−
R. trifolii CB	+	+	−	−	−
Salmonella enteritidis X47	+	+	−	−	−
Serratia marcescens NIM	+	+	−	−	−
Shigella dysenteriae 1	+	+	−	−	−
S. sonnei SBH	+	+	−	−	−
Gram positive					
Bacillus cereus var. *mycoides* EM	+	+	+	−	−
B. megaterium EU	+	+	+	+	−
B. subtilis M	+	+	+	+	−
Corynebacterium hoagii X	+	+	+	+	−
Lactobacillus plantarum 17-5	+	+	+	+	−
Leuconostoc mesenteroides P60	+	+	+	+	−
Mycobacterium phlei X39	+	+	−	−	−
M. smegmatis 601	+	+	−	−	−
Staphylococcus aureus 209P	+	+	+	+	−
Streptococcus faecalis 10C1	+	+	+	+	+
S. lactis Tol	+	+	+	+	+

* These organisms were grown on glucose yeast infusion agar.

† Symbols: +, growth; −, complete absence of growth in 5 days.

RESULTS

Inhibition of bacterial growth. Bacteria were streaked on Trypticase soy agar containing different concentrations of phenethyl alcohol. The presence or absence of growth on the plates was determined after 5 days of incubation at the optimal temperature of each organism. The results (Table 1) confirm and extend those obtained by Lilley and Brewer (1953). The gram-negative bacteria were inhibited at a concentration of 0.25%; the gram-positive bacteria grew at this concentration and, in most cases, at a concentration of 0.35%. However, a few exceptions were noted. The gram-negative bacterium *Pseudomonas fluorescens* was not inhibited at 0.35%; on the other hand, the gram-positive, acid-fast *Mycobacterium phlei* and *M. smegmatis* were inhibited at a concentration of 0.25%. At a concentration of 0.5%, all organisms tested were inhibited except the streptococci.

Action of phenethyl alcohol in liquid media. Although the gram-positive bacteria formed colonies on solid media, such colonies required more time to become visible than they did on media without phenethyl alcohol. This observa-

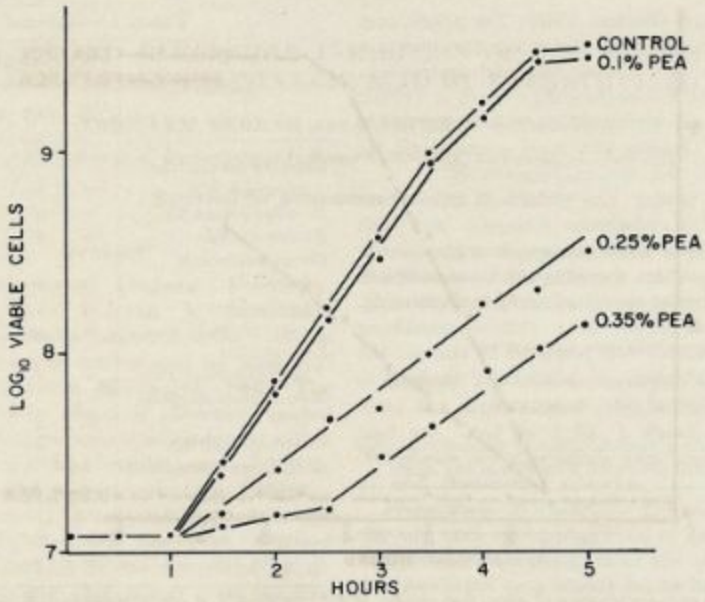

FIG. 1. *Effect of concentration of phenethyl alcohol (PEA) on growth of Staphylococcus aureus 209P in Trypticase soy broth.*

tion suggested that there was some inhibition of the gram-positive species. Consequently, phenethyl alcohol at different concentrations was added to Trypticase soy broth at the time of inoculation, and viable counts were made at 30-min intervals.

In Trypticase soy broth, phenethyl alcohol at a concentration of 0.1% had no effect on *S. aureus* 209P, but at 0.25 and 0.35%, the compound was progressively more inhibitory, as reflected by the decreased rate of growth (Fig. 1); however, the maximal crop of cells was eventually obtained. Similar results were obtained with *Bacillus subtilis* M. Although 0.1% phenethyl alcohol inhibited the growth rate of *E. coli* H, 0.25% completely inhibited multiplication of this bacterium (Fig. 2). These data also indicate that the phenethyl alcohol was not bactericidal, since the viable count of *E. coli* remained constant for 9 hr in the presence of 0.25% phenethyl alcohol. Essentially identical results were obtained with *Aerobacter aerogenes* 68.

Bacteriostatic action of phenethyl alcohol. *E. coli* H was inoculated into Trypticase soy broth and incubated until a concentration of 5×10^7 cells/ml was reached. The culture was divided into three equal portions, two of which received phenethyl alcohol at a final concentration of 0.25%. After 3 hr of incubation, one of the cultures which contained phenethyl alcohol was centrifuged, washed twice, and resuspended in Trypticase soy broth and incubation continued. Viable counts were made at 30-min intervals on all three cultures (Fig. 3). It is apparent (Fig. 2 and 3) that phenethyl alcohol is truly bacteriostatic, since upon removal of the compound the cells began dividing and at a rate higher than in the absence of phenethyl alcohol. This observation suggested that the cells were filamenting in the presence of phenethyl alcohol. Microscopic examination and measurements of the treated cells revealed that they had increased in length; within a few hours the cells were seven to ten times as long as the untreated cells.

Effect of penicillin on phenethyl alcohol-treated cells. Since *E. coli* H continued to increase in length in the presence of phenethyl alcohol, an experiment was performed to determine whether cell-wall synthesis continued under such conditions. Trypticase soy broth was inoculated with *E. coli* H and incubated at 37 C until the cell concentration reached 2.3×10^6 cells/ml. Phen-

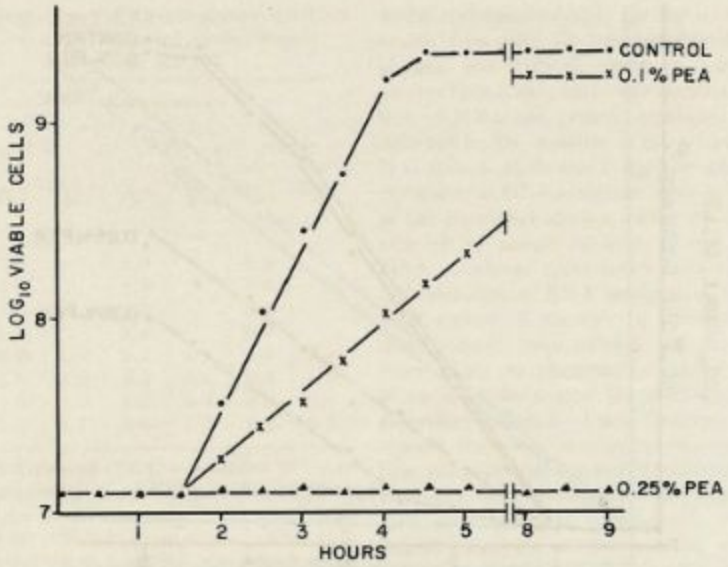

FIG. 2. *Effect of concentration of phenethyl alcohol (PEA) on growth of Escherichia coli H in Trypticase soy broth.*

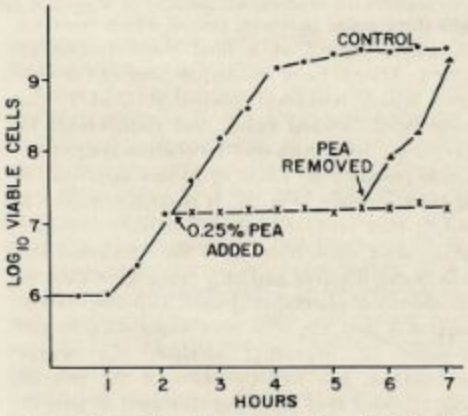

FIG. 3. *Bacteriostatic effect of phenethyl alcohol (PEA) on Escherichia coli H in Trypticase soy broth.*

TABLE 2. *Action of penicillin on phenethyl alcohol-treated Escherichia coli H*

Additions	Viable count		Kill
	Before addition	After addition (2.5 hr)	
			%
None	2.3×10^6	7.2×10^8	—
PEA* (0.25%)	2.3×10^6	2.5×10^8	0
PEA (0.25%) + 10 units penicillin/ml	2.3×10^6	2.6×10^8	0
PEA (0.25%) + 25 units penicillin/ml	2.3×10^6	1.6×10^7	99.3
Penicillin (10 units/ml)	2.3×10^6	7.4×10^8	—
Penicillin (25 units/ml)	2.3×10^6	1.0×10^7	99.9

* PEA = phenethyl alcohol.

ethyl alcohol (0.25%) was added to five of the flasks; one flask received no phenethyl alcohol and served as the control. After the cultures had incubated at 37 C for 2.5 hr, viable counts were made and penicillin was added to four of the five flasks at the desired concentration. The cultures were incubated for an additional 2 hr, and the viable count of each culture was determined. The cells were killed to the same extent as they were in the presence of penicillin alone (Table 2). These results indicate that cell-wall

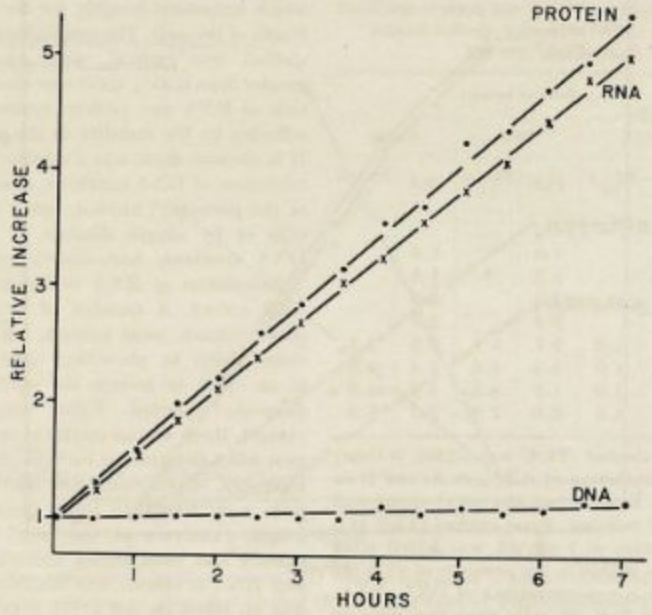

FIG. 4. *Effect of 0.25% phenethyl alcohol on the synthesis of proteins, RNA, and DNA in Escherichia coli H. The viable count remained at 5 × 10⁷ cells/ml throughout the experiment. DNA: 1 = 3 μg/5 × 10⁸ cells. RNA: 1 = 13 μg/5 × 10⁸ cells. Protein: 1 = 50 μg/5 × 10⁷ cells.*

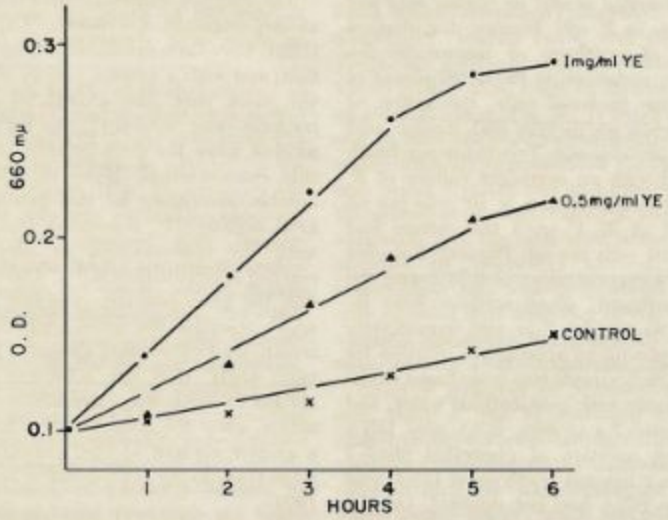

FIG. 5. *Effect of yeast extract (YE) on the turbidity of a culture of Escherichia coli H in Trypticase soy broth containing 0.25% phenethyl alcohol.*

TABLE 3. *Stimulation of RNA and protein synthesis by yeast extract in phenethyl alcohol-treated Escherichia coli H**

Time	Relative increase					
	DNA		RNA		Protein	
	PEA	PEA + YE	PEA	PEA + YE	PEA	PEA + YE
hr						
0	1.0		1.0		1.0	
1	1.0		1.5		1.6	
2	1.0		2.2		2.3	
2.5	1.0		2.5		2.7	
3	1.0	1.0	2.7	3.1	2.9	3.3
4	1.0	1.0	3.4	4.1	3.5	4.6
5	1.3	1.0	4.0	5.4	4.2	5.9
7	1.3	1.2	5.0	7.2	5.2	8.0

* Phenethyl alcohol (PEA) was added (0 time) at a final concentration of 0.25% to *E. coli* H in Trypticase soy broth when the total count had reached 5×10^7 cells/ml. Yeast extract (YE), at a final concentration of 1 mg/ml, was added after the cells had incubated in the presence of PEA for 2.5 hr. The initial concentrations of DNA, RNA, and protein per 5×10^7 cells were the same as those reported for Fig. 4.

synthesis continued during the inhibition of multiplication by phenethyl alcohol.

Action of phenethyl alcohol on nucleic acid and protein synthesis in E. coli. Because disturbances in the rates of synthesis of macromolecules result, in many instances, in the development of long filamentous bacterial cells, the action of phenethyl alcohol on protein and nucleic acid synthesis was investigated. Trypticase soy broth was inoculated with an overnight culture of *E. coli* H at a concentration of 5×10^6 cells per ml and incubated at 37 C until the culture had reached 5×10^7 cells per ml. Phenethyl alcohol was added at a concentration of 0.25% and the incubation continued; 40-ml samples were removed every 30 min for 7 hr and immediately chilled. After plating an appropriate dilution for viable counts, each sample was centrifuged in the cold, washed twice with cold distilled water, and the cells analyzed for protein, RNA, and DNA (Fig. 4). Upon addition of phenethyl alcohol there was little if any net synthesis of DNA, and after 7 hr the DNA had not doubled. On the other hand, net synthesis of RNA and protein had increased approximately fivefold in 7 hr, which accounted roughly for the increase in the length of the cells. The concentration of phenethyl alcohol was critical, since at concentrations greater than 0.25% there was considerable inhibition of RNA and protein synthesis, which was reflected by the inability of the cells to elongate. It is obvious there was a selective and reversible inhibition of DNA synthesis, since upon removal of the phenethyl alcohol, either by washing the cells or by simple dilution of the compound, DNA synthesis immediately proceeded.

Stimulation of RNA and protein synthesis by yeast extract. A number of complex materials (liver extract, meat extract, and yeast extract) were added to phenethyl alcohol-treated cells in an effort to reverse the inhibitory action of phenethyl alcohol. Upon addition of yeast extract, there was an apparent reversal of inhibition when determined turbidimetrically (Fig. 5). However, when examined microscopically, the cells were found to have simply increased in length. Analyses of the cells to which yeast extract had been added indicated that protein and RNA synthesis was stimulated, while there was no effect on net DNA synthesis (Table 3). The substance or substances responsible for the stimulation are under investigation.

DISCUSSION

The selective inhibitory properties of phenethyl alcohol originally described by Lilley and Brewer (1953) have been substantiated by this investigation, and with a greater variety of bacteria. For the most part, the growth of gram-negative bacteria was inhibited by 0.25% phenethyl alcohol, while the gram-positive bacteria grew at this concentration. However, there were two notable exceptions to this generalization. The gram-negative *P. fluorescens* was not inhibited until the concentration of phenethyl alcohol reached approximately 0.5%. The other exception was the gram-positive, acid-fast mycobacteria, which resemble the gram-negative cells in their sensitivity to phenethyl alcohol. This observation may imply that the solubility of phenethyl alcohol in lipids may play a role in its selective action, since the gram-negative bacteria contain a greater content of lipid material in their cell walls than do the gram-positive bacteria (Salton, 1960).

Although the mechanism for the selective inhibitory activity of phenethyl alcohol on gram-

negative bacteria was not resolved by these studies, the compound was shown to be bacteriostatic at the concentrations usually employed. More significantly, however, the bacteriostatic action of the compound can be explained by its ability to inhibit selectively and reversibly DNA synthesis. The stimulation by yeast extract of RNA and protein synthesis in phenethyl alcohol-treated cells offers additional evidence for this selective inhibition of net DNA synthesis, for the addition of yeast extract resulted in an almost twofold increase in protein and RNA without any increase in DNA. This stimulation by yeast extract was unexpected, because the phenethyl alcohol-treated cells were in a complex medium, Trypticase soy broth. Yeast extract must be supplying some substance(s) which is limiting in Trypticase soy broth, since the turbidity increase appears to be a function of the yeast-extract concentration, without concomitant increase in cell numbers.

The formation of filamentous forms in the presence of phenethyl alcohol is similar to the observations of Barner and Cohen (1954) on a thymine-requiring strain of *E. coli* and by Shiba et al. (1959) with mitomycin C. In each instance, the inhibition of DNA synthesis led to filament formation. However, inhibition with phenethyl alcohol differs in a number of important aspects. In the absence of thymine, the thymine-requiring strain rapidly loses the ability to form colonies (Barner and Cohen, 1954), while cells inhibited with phenethyl alcohol remain viable for at least 9 hr. Inhibition of DNA synthesis with mitomycin C is not reversible, but removal of phenethyl alcohol results in immediate initiation of cell division and DNA synthesis. Phage synthesis was not inhibited in the absence of thymine in the *E. coli* mutant (Barner and Cohen, 1954) nor in the presence of mitomycin C with normal cultures of *E. coli* (Sekiguchi and Tagaki, 1960). However, we have found a striking inhibition of T2 synthesis in the presence of phenethyl alcohol. The results of these experiments will be reported elsewhere.

The data obtained thus far do not allow for speculation of the mechanism by which phenethyl alcohol inhibits DNA synthesis. It is significant, however, that, in addition to being a reversible inhibitor of DNA synthesis, phenethyl alcohol is effective against a variety of bacteria, and therefore should prove a valuable asset in the study of the relationships between the synthesis of nucleic acids and the synthesis of proteins.

ACKNOWLEDGMENT

This investigation was supported by a grant (E-2570-C2) from the U. S. Public Health Service.

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Printed in U.S.A.
Vol. 8, No. 5, 1962 BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS

INHIBITION OF REPLICATION OF BACTERIOPHAGE T2 BY PHENETHYL ALCOHOL*

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Department of Bacteriology, Indiana University, Bloomington, Ind.

Received July 2, 1962

Berrah and Konetzka (1962) reported that the bacteriostatic action of phenethyl alcohol can be attributed to the selective and reversible inhibition of DNA synthesis in susceptible bacteria. This communication deals with the effect of phenethyl alcohol on the replication of the bacteriophage T2 in Escherichia coli H.

METHODS

Phenethyl alcohol, at a concentration of 0.3%, was added to an exponentially growing TSB culture of E. coli H at 5×10^7 cell/ml. The culture was incubated for 2 hrs, during which time there was no significant increase in cell numbers nor any net synthesis of DNA. However, RNA and protein increased approximately 3-fold. The methods employed for these determinations have been described previously (Berrah and Konetzka, 1962). After the 2-hr incubation period, 20 ml of the culture were filtered through a Millipore HA filter (47 mm), and the collected cells were resuspended in 5 ml of TSB + 0.3% PEA. One-tenth ml of a suspension of T2 at 5×10^{10} PFU/ml was added and the mixture aerated for 5 min. Two and one-half ml samples of the suspension were then filtered through a Millipore HA filter. One sample was washed on the filter with 3 separate

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* This investigation was supported, in part, by a grant (E-2570-C2) from the U. S. Public Health Service.

Abbreviations: DNA - deoxyribonucleic acid; RNA - ribonucleic acid; PEA - phenethyl alcohol; TSF - Trypticase soy broth; PFU - plaque forming units; dCMP - deoxycytidine-5'-phosphate.

40 ml volumes of TSB + 0.3% PEA, and the cells were finally resuspended in 10 ml of the same medium; another sample was treated in an identical manner, except that the last 40 ml volume of TSB did not contain PEA, and the cells were resuspended in 10 ml of TSB without PEA. This procedure removed over 99.9% of the unadsorbed phage. The infected cells were appropriately diluted into TSB + 0.3% and TSB without PEA, respectively, incubated at 37 C, and samples were withdrawn at intervals and plated in the usual manner for the determination of a single step growth cruve (Adams, 1959). Samples were also treated with chloroform before plating to determine the intracellular phage (Séchaud and Kellenberger, 1956).

The methods for the single cell bursts were identical to those employed for the single step growth curve except that the infected cells were diluted immediately after the 5 min adsorption period to contain 0.7 infected cells/ml of broth with and without 0.3% PEA. The diluted samples were incubated at 37 C for 1 1/2 hrs before being plated. The addition of 2.5 ml of the seeded top agar to the PEA-containing samples diluted the compound sufficiently so that it was not inhibitory to the plating cells.

Bacterial cell counts were determined by means of a Petroff Hausser counting chamber.

RESULTS

A normal burst of approximately 200 PFU was observed in the control cells (Table 1), although these cells were in the presence of PEA for 2 hrs prior to infection and for the 5 min interval during the adsorption period. Despite the fact that DNA synthesis in the cells had been prevented for 2 hrs, removal of the PEA allowed normal replication of T2. However, in the presence of PEA there was a marked inhibition of T2 replication, as determined by the single step growth curve experiment. The burst size of the cells in the presence of PEA was approximately 4. The infected bacteria in the presence of PEA lysed to the same extent as the control cells, but there was no substantial increase in PFU. The number of morphologically identi-

Table 1

Effect of PEA on T2 Replication in E. coli H

Minutes after Adsorption	PEA Removed after Infection		PEA Present after Infection	
	PFU x 10^7/ml	Bacterial Cell Count x 10^7/ml	PFU x 10^7/ml	Bacterial Cell Count x 10^7/ml
10	4.8 (<0.01)*	5.6	5.1 (<0.01)	4.7
15	4.5		4.9	
20	5.1 (<0.01)		4.8 (<0.01)	
25	5.1		5.0	
30	4.6 (0.16)		4.9 (0.16)	
35	4.7		12.1	
40	1070.0 (1030.0)		19.3 (17.6)	
45	1070.0		16.2	
50	942.0 (976.0)		18.8 (15.9)	
55	960.0		22.6	
60	978.0 (954.0)	<0.5	18.8 (19.4)	<0.5

* The figures in parentheses represent PFU in the equivalent chloroformed samples.

fiable bacteria decreased over 90% in each case. The inhibition of T2 replication was further substantiated by the results of the single cell burst experiment (Table 2). The control cells released a normal number of PFU, but the PEA-treated cells released only 1-9PFU/cell.

DISCUSSION

The selective and reversible inhibition of DNA synthesis by PEA is strikingly demonstrated by the effect of this compound on T2 replication. According to the data obtained from the single step growth curve experiment, synthesis of T2 is inhibited approximately 98%. However, this inhibition may indeed be 100%. With the high multiplicity of infection employed and the percent infection attained, the cells are probably multiply infected and, consequently, the infective units released from the PEA-treated cells may simply represent the "protein coating" of the input T2 DNA. The results also imply that phage proteins are being synthesized

Table 2

Effect of PEA on Single Cell Bursts of T2

Control Cells (PEA removed after infection):	
Number of Plates with plaques:	6
Plaque counts:	124, 182, 251, 315, 352, 366
Number of Plates without plaques:	42
PEA-inhibited Cells:	
Number of plates with plaques:	8
Plaque counts:	1, 1, 2, 5, 6, 7, 7, 9
Number of Plates without plaques:	40

in the PEA-treated T2-infected cells, for not only do the infected bacteria lyse (Table 1), but they also form phage-induced dCMP deaminase at about the same rate as untreated infected cells (Keck et al., 1960). An increase in phage proteins can also be detected by complement-fixation procedures. A detailed report of these findings is in preparation.

REFERENCES

Adams, M.H. 1956. Bacteriophages Interscience Publishers, Inc., N.Y.
Berrah, G. and Konetzka, W.A. 1962. J. Bacteriol., 83, 738.
Keck, K., Mahler, H.R. and Fraser, D. 1960. Arch. Biochem, Biophy., 86, 85.
Séchaud, J. and Kellenberger, E. 1956. Ann. inst. Pasteur, 90, 102.

President Houphouët-Boigny promoting rural farming

With cabinet members in 1956 - Houphouët-Boigny seated

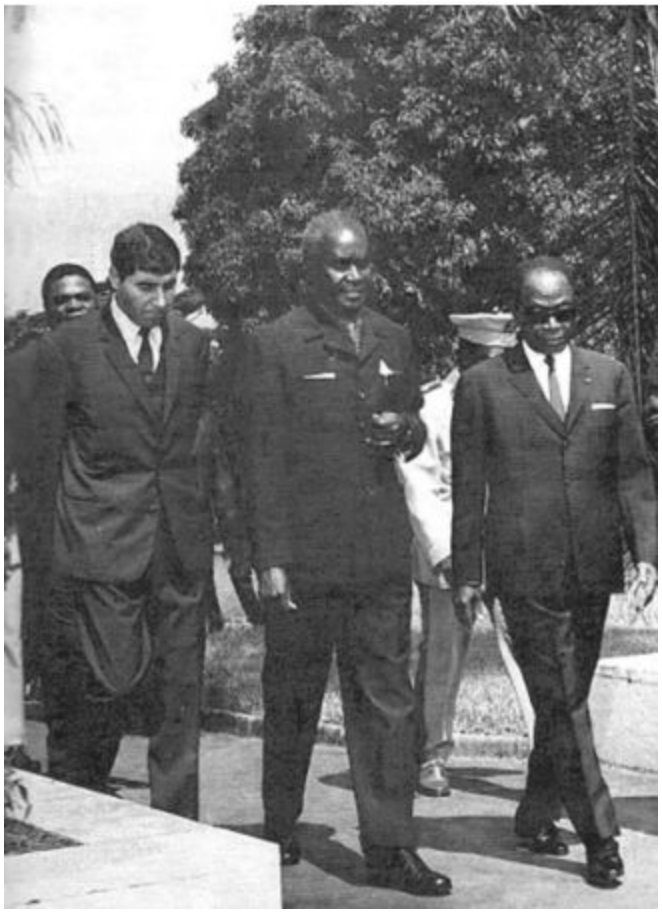
With President Houphouët and Dr. Julius Nyerere

President Tubman inspects honor guard at Abidjan port

On the red carpet with Presidents Houphouët and Tubman

With Presidents Houphouët and Tubman at the gala dinner

President Houphouèt awards Tubman a medal



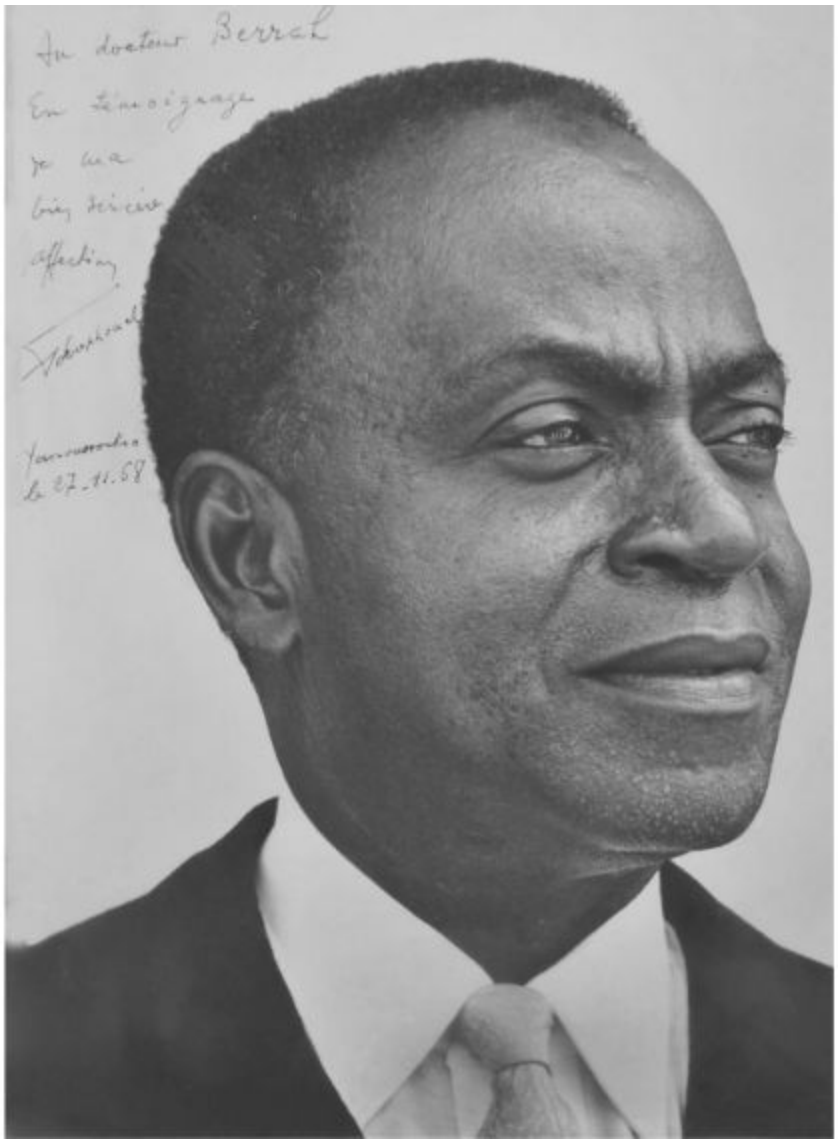
With President Kaunda and President Houphouët

President Kaunda and President Houphouët

With Ghana Prime Minister Dr. K. A. Busia

With President Houphouët and Robert McNamara

With Minister Usher and US Secretary of State Dean Rusk


Au docteur Berrah
En témoignage
de ma
bien sincère
affection

Chapter 7 - Page 223

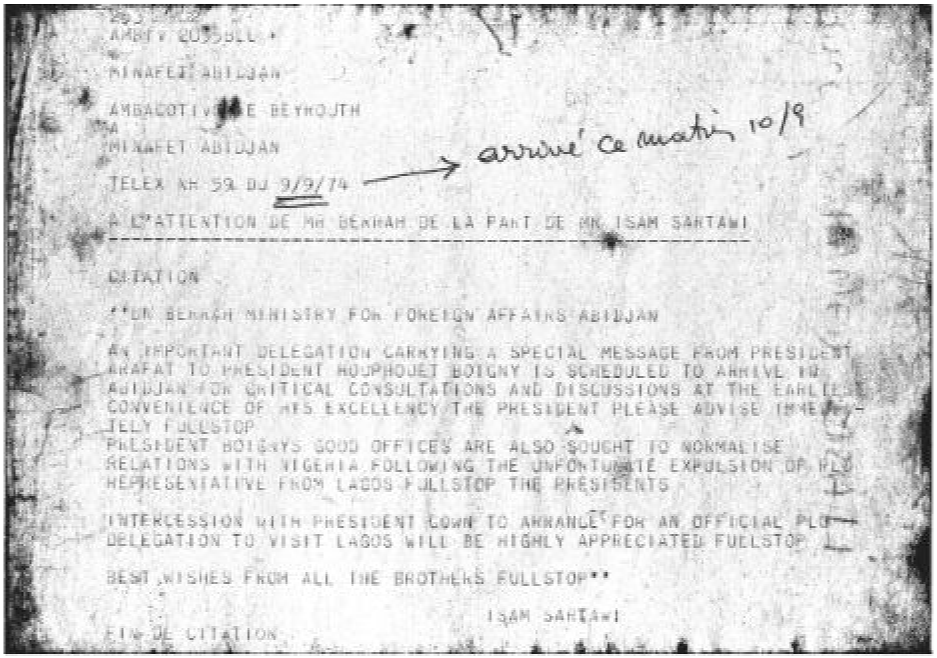
Déjeuner

PAQUEBOT
"FRANCE"
PREMIÈRE CLASSE

Menu

Luncheon

Chapter 7 - Page 229



AMBFV 20358LE +

MINAFET ABIDJAN

AMBACOTIV[illegible]E BEYROUTH
A
MINAFET ABIDJAN

TELEX NR 59 DU 9/9/74 → arrivé ce matin 10/9

A L'ATTENTION DE MR BEKRAH DE LA PART DE MR ISAM SARTAWI

CITATION

"DR BEKRAH MINISTRY FOR FOREIGN AFFAIRS ABIDJAN

AN IMPORTANT DELEGATION CARRYING A SPECIAL MESSAGE FROM PRESIDENT ARAFAT TO PRESIDENT HOUPHOUET BOIGNY IS SCHEDULED TO ARRIVE IN ABIDJAN FOR CRITICAL CONSULTATIONS AND DISCUSSIONS AT THE EARLIEST CONVENIENCE OF HIS EXCELLENCY THE PRESIDENT PLEASE ADVISE IMMEDIATELY FULLSTOP
PRESIDENT BOIGNYS GOOD OFFICES ARE ALSO SOUGHT TO NORMALISE RELATIONS WITH NIGERIA FOLLOWING THE UNFORTUNATE EXPULSION OF PLO REPRESENTATIVE FROM LAGOS FULLSTOP THE PRESIDENTS

INTERCESSION WITH PRESIDENT GOWN TO ARRANGE FOR AN OFFICIAL PLO DELEGATION TO VISIT LAGOS WILL BE HIGHLY APPRECIATED FULLSTOP

BEST WISHES FROM ALL THE BROTHERS FULLSTOP"

ISAM SARTAWI

FIN DE CITATION

Dr. Sartawi's original telex

Abidjan, September 24, 1987

To Mr. Serageldin
Director of Africa Department World Bank
Washington, D.C.

Mr. Director:

Further to instructions from the President of the Republic and in order to preserve the excellent relationship between Côte d'Ivoire and the World Bank, we would greatly appreciate the replacement of Mr. Benbrahim from his position.

Please accept, Mr. Director, the expression of my distinguished consideration.

On behalf of the President
Dr. Ghoulem Berrah
Special Advisor

A

MONSIEUR SERAGELDIN

P.R.C.S/BM.001

DIRECTEUR DU DEPARTEMENT
GEOGRAPHIQUE N° 1 DE LA
REGION AFRIQUE
BANQUE MONDIALE

WASHINGTON

MONSIEUR LE DIRECTEUR,

SUR INSTRUCTION EXPRESSE DU CHEF DE L'ETAT ET DE MANIERE A PRESERVER L'EXCELLENCE DES RELATIONS ENTRE LA BANQUE MONDIALE ET LA REPUBLIQUE DE COTE D'IVOIRE, JE VOUS SAURAIS GRE DE PROCEDER AU REMPLACEMENT DE MONSIEUR BENBRAHIM.

JE VOUS PRIE D'AGREER, MONSIEUR LE DIRECTEUR, L'EXPRESSION DE MA CONSIDERATION DISTINGUEE.

P. LE PRESIDENT DE LA REPUBLIQUE

LE DOCTEUR G. BERRAH
CONSEILLER SPECIAL.

Mr. Conable as an honorary Akan chief

Mr. Nana Yalley and wife, Namuli

Mr. and Mrs. Ollo

Imam Sheikh Bouzouzou

Mrs. Posset-Viaud

My niece Seìda with her dad, Saìd

Abdelkrim and Naïma Boujibar

President Houphouët congratulating me

Mons. Kutwà and Abbé Eboï directing the president

President Houphouët with daughter Marie

Relaxing at the reception with President Houphouët

My sister-in-law, Mireille, joins us for a picture

Leaving for the residence

My wife and I with the president of his birthday

My wife with niece Audrey

Cruising Lake Lucerne, Switzerland

EL MOUDJAHID
la révolution par le peuple et pour le peuple
quotidien national d'information

AUDIENCE PRESIDENTIELLE

* **LE Dr BERAH**

Envoyé spécial du Président ivoirien

Le Président du Conseil de la Révolution et du Conseil des ministres, M. Houari Boumediène, a reçu hier matin au siège de la Présidence, le Docteur Berah, envoyé spécial du Président Houphouët-Boigny.

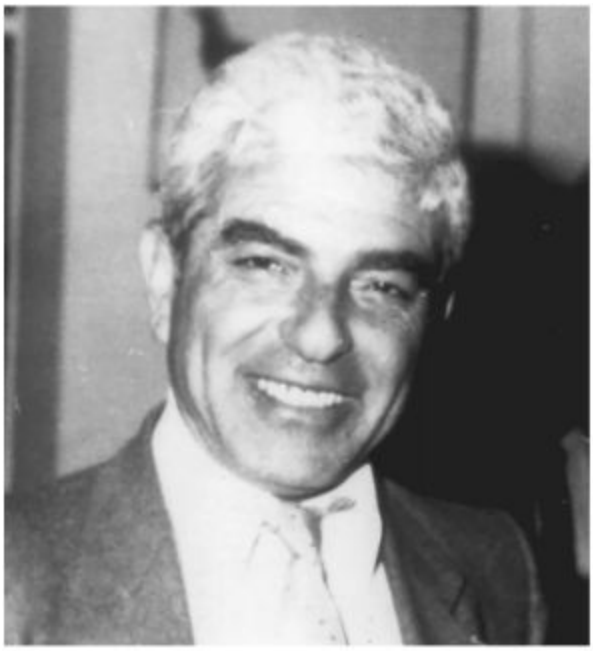
President Houphouët greets Algerian Ambassador Mohamed Sahnoun

With President Boumédiène

President Houphouët, Prime Minister Ben-Gurion, and Minister Golda Meir with the First Ladies of Côte d'Ivoire and Israel

Inspecting the honor guard with President Nixon

With Egyptian President Anwar Sadat



Dr. Isam Sartawi

Sartawi with Matti Peled

President Houphouët and Premier Yitzhak Rabin

QUATRE — Mercredi 9 Février 1977 — LE PROGRES EGYPTIEN

LE Chef de l'Etat
REÇOIT LE CONSEILLER
DU PRESIDENT BOIGNY

LE Président Anouar El-Sadate a reçu hier le Dr Berrah, conseiller de M. Houphouet Boigny, Président de la Côte d'Ivoire (notre photo).

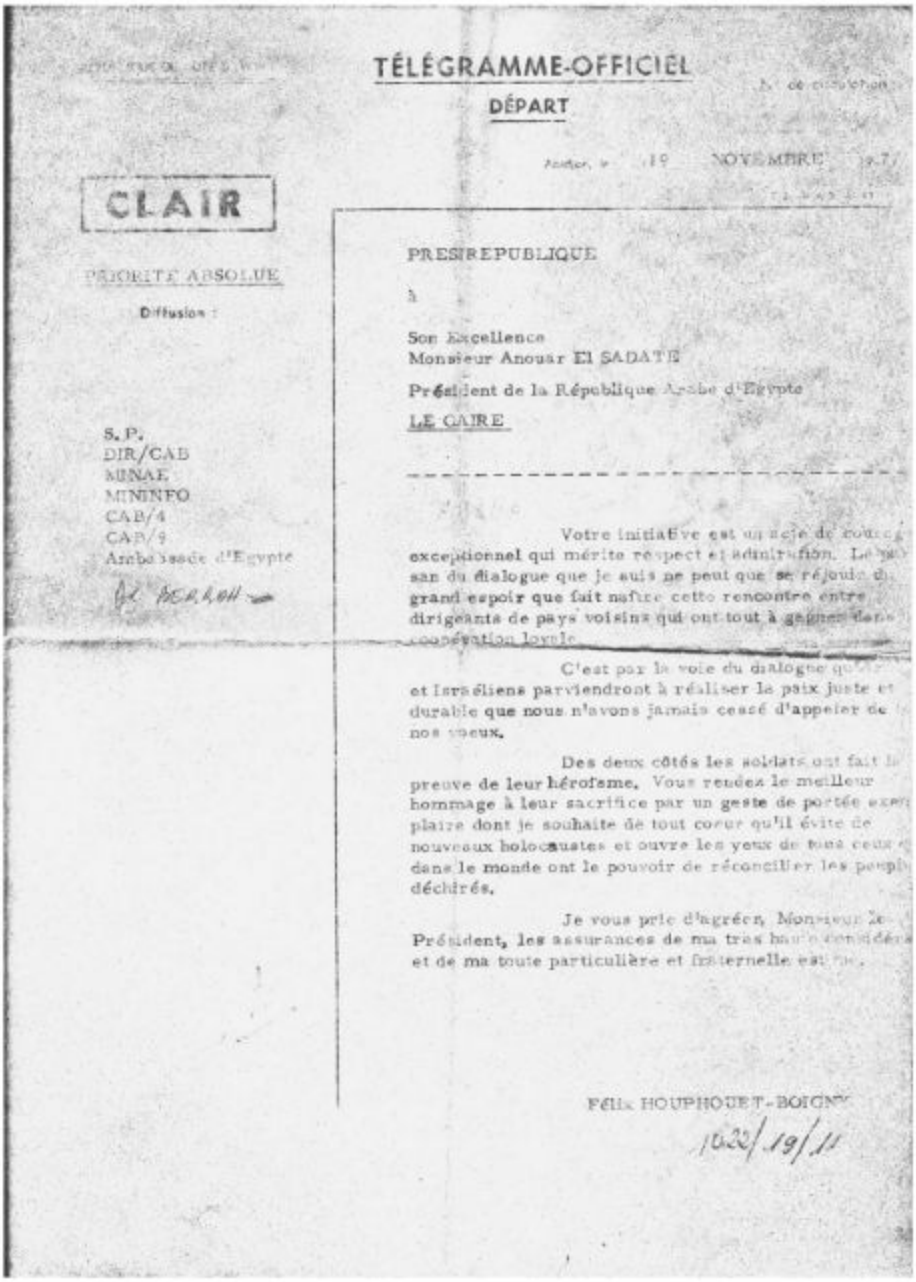
Au cours de la réunion, le Dr Berrah a fait le point de la situation en ce qui concerne l'entretien qu'a eu, à Genève, le Président Boigny avec le premier ministre israélien, Yitzhak Rabin. Le Dr Berrah a affirmé que la Côte d'Ivoire ne s'est pas départie de son attitude à l'égard du Proche-Orient, basée sur le respect des droits palestiniens et l'évacuation par les Israéliens des territoires arabes occupés.

Meeting President Sadat

الاهرام - ٧٧/١٢/٥ - ٥

الرئيس أنور السادات عندما استقبل أمس السيد دونشار رميس مبعوث رئيس جمهورية ساحل العاج ..

With President Sadat



TÉLÉGRAMME-OFFICIEL

DÉPART

Paris, le 19 NOVEMBRE 1977

CLAIR

PRIORITE ABSOLUE

Diffusion :

S. P.
DIR/CAB
MINAE
MININFO
CAB/4
CAB/9
Ambassade d'Egypte

PRESREPUBLIQUE

à

Son Excellence
Monsieur Anouar El SADATE
Président de la République Arabe d'Egypte
LE CAIRE

Votre initiative est un acte de courage exceptionnel qui mérite respect et admiration. Le message du dialogue que je suis ne peut que se réjouir du grand espoir que fait naître cette rencontre entre dirigeants de pays voisins qui ont tout à gagner dans la coopération loyale.

C'est par la voie du dialogue que [illegible] et Israéliens parviendront à réaliser la paix juste et durable que nous n'avons jamais cessé d'appeler de nos vœux.

Des deux côtés les soldats ont fait la preuve de leur héroïsme. Vous rendez le meilleur hommage à leur sacrifice par un geste de portée exceptionnelle dont je souhaite de tout cœur qu'il évite de nouveaux holocaustes et ouvre les yeux de tous ceux qui dans le monde ont le pouvoir de réconcilier les peuples déchirés.

Je vous prie d'agréer, Monsieur le Président, les assurances de ma très haute considération et de ma toute particulière et fraternelle estime.

Félix HOUPHOUET-BOIGNY

1020/19/11

A support telegram from President Houphouët to President Sada on his trip to Israel, November 19, 1977

١٩٧٨/١/١٠

رسالة للسادات من رئيس ساحل العاج

تسلم حسني مبارك نائب رئيس الجمهورية امس رسالة الى الرئيس انور السادات من الرئيس فيليكس هوافيه بوانيه رئيس ساحل العاج خلال مقابلة تمت بينهما امس ..واوضح نائب رئيس الجمهورية لمبعوث ساحل العاج آخر تطورات مشكلة الشرق الاوسط .. وكان الدكتور غلام براخ وصل القاهرة يوم الخميس الماضي.

With Egyptian Vice President Hosni Mubarak

President Houphouët at Rose Garden with President Reagan

President Houphouët-Boigny and Premier Shimon Peres

The Félix Houphouët-Boigny Peace Prize Award ceremony: Mr. Peres, Traoré, Arafat, Mayor, Rabin, Kissinger

With Monsignor Mullor and the president

Saint Paul's Cathedral

President Houphouët with Pope John Paul II

The beautiful minaret

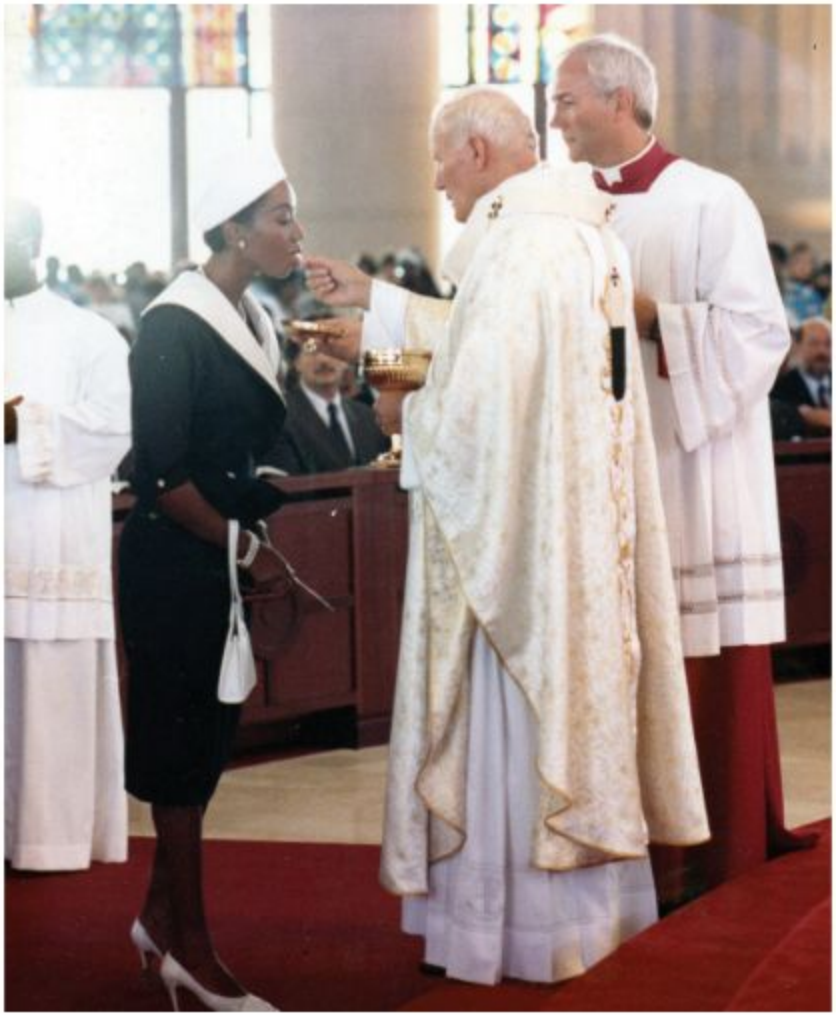
Riviera Mosque

Imam Tidjane Bâ

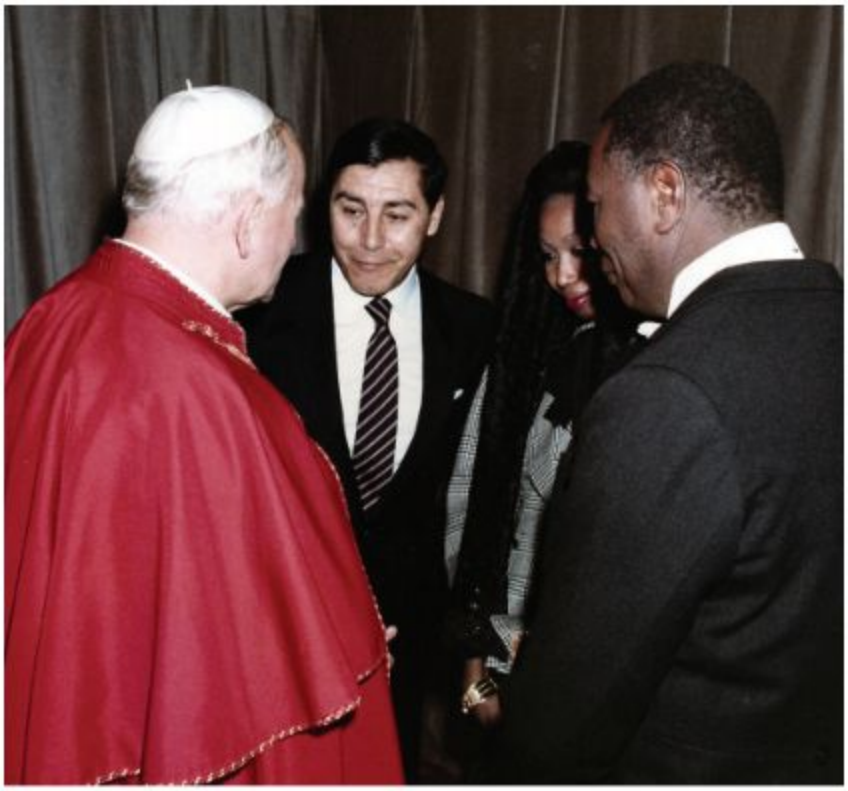
Our Lady of Peace Basilica

With Aillot-About, Pope Paul IV, and Minister Usher

Greeting Pope John Paul II



My wife receives the Holy Communion from Pope John Paul II



With my wife, Ambassador Amichia, and Pope John Paul II

My wife receiving a rosary from Pope John Paul II

Leaving San Marco Basilica, Venice, on our twenty-fifth anniversary

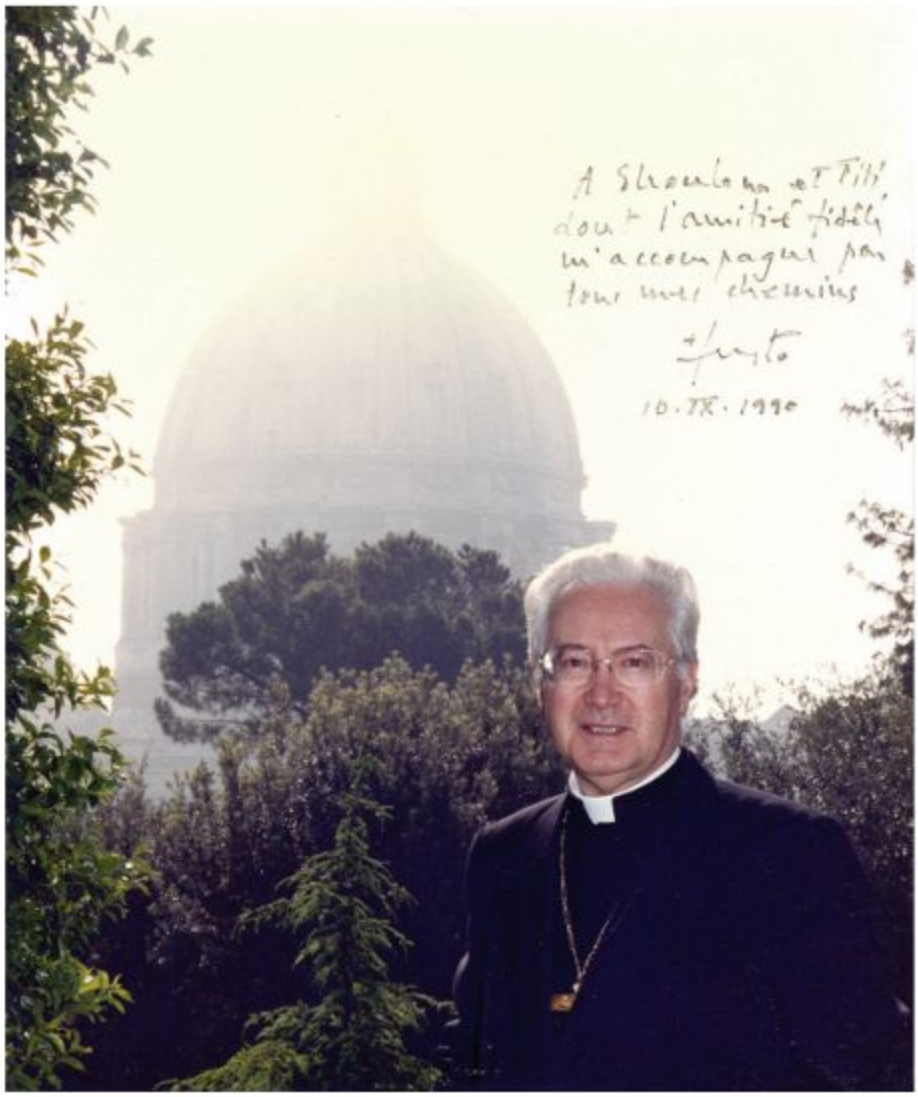
Vacationing in Hawai'i

My friend Essy Amara, my wife, and Imam Tidjane Bâ

Imam Tidjane Bâ and Monsignor Mullor

Carving some fish for Monsignor Bolonek

With Father Touzet, Monsignor Alvaro del Portillo, and my wife



Monsignor Justo Mullot Garcia

On a factory tour with President Siad Barre


Xidigta Oktoobar

Sabti, 5ta Luulyo, 1975

Jaalle Siyaad iyo La-taliyaha Madaxweynaha dalka Ifori Kost, oo wada hadal yeeshay.

With President Said Barre

نجمة ★ اكتوبر

الاثنين ١٨ ذوالعقدة
١٣٩٧هـ
الموافق ٣١ اكتوبر
١٩٧٧م

الرئيس القائد يتسلم رسالة خطية من رئيس جمهورية ساحل العاج

مقديشو ـ سونا

تلقى الرفيق محمد سياد بري السكرتير العام للحزب الاشتراكي الثوري الصومالي ورئيس الجمهورية امس رسالة خطية من السيد هوفي بوني رئيس جمهورية ساحل العاج .

وقد نقل هذه الرسالة الى الرفيق سياد الدكتور تشونلن بيراه ، المساعد الخاص لرئيس جمهورية ساحل العاج الذي وصل الى مقديشو صباح امس في زيارة رسمية لجمهورية الصومال الديمقراطية تستغرق يومين .

وتتعلق الرسالة بتعزيز علاقات الصداقة الطيبة التي كانت دائمة بين جمهورية الصومال الديمقراطية وجمهورية ساحل العاج .

وأجرى الرفيق سياد محادثات مع الدكتور بيراه اثناء مقابلة تسليم الرسالة العلاقات الثنائية بين البلدين والقضايا الافريقية والدولية الراهنة .

ورجا الرفيق سياد من الدكتور بيراه ابلاغ التحيات الحارة الى الرئيس هوفي بوني ، والحكومة وشعب ساحل العاج متمنيا له الازدهار والرفاهية .

وكان قد حضر المقابلة ايضا الرفيقة عاطفة أساق بيح مديرة عامة وزارة الخارجية بالوكالة والرفيق عمر سالم حسين مدير التشريفات برئاسة الجمهورية ومسئولون آخرون .

Handing over documents to President Siad Barre

REPUBLIQUE DE COTE D'IVOIRE

SERVICE DU CHIFFRE

CLAIR

TÉLÉGRAMME

ARRIVÉE

Origine : MOGADISCIO
Adresse : ABIDJAN

N° de circulation : 215
Date d'émission : 1500/26/0
Date de réception : 0907/27/1976

Diffusion :

A.E
DIR/CAB
S.P
CAB/4

H.E. FELIX HOUPHOUET-BOIGNY PRESIDENT
OF THE REPUBLIC OF IVORY COAST ABIDJAN

N° 62/ EXCELLENCY CMA EYE AM CONFIRDENT THAT YOUR EXCELLENCY IS WELL AWARE OF THE CRITICAL SITUATION PREVAILING IN FRENCH SOMALILAND AND THE LATEST DANGEROUS POLITICAL DEVELOPMENTS IN THE TERRITORY WHICH IF UNCHECKED COULD HAVE UNFORTUNATE CONSEQUENCES FOR THE WHOLE REGION. FOLLOWING THE OVERWHELMING AND UNSWERVING SUPPORT GIVEN BY THE OAU AND INTERNATIONAL COMMUNITY YHROUGH INTERLIA THE UN GENERAL ASSEMBLY RESOLUTION APPROVED BY 109 MEMBER STATES DECEMBER LAST TO THE PEOPLE OF FRENCH SOMALILAND FOR THE ATTAINMENT OF IMMEDIATE CMA UNCONDITIONAL INDEPENDENCE AND THE WITHDRAWAL OF FRENCH MILITARY FORCES AND BASES CMA THE FRENCH COLINIAL POWER IS NOWW RESORTING TO DESPICABLE STRATEGEMS AND MANOEUVRE AIMED AT GRANTING A FORMAL AND HOLLOW INDEPENDENCE TO FRENCH SOMALILAND IN ORDER TO APPEASE INTERNATIONAL OPINION WHILE AT THE SAME TIME CREATING A PUPPET REGIME HEADED BY ITS FAITHFUL STOOGE ALI AREF CMA AN INDIVIDUAL WHO DOES NOT ENJOY ANY SUPPORT WHATSOEVER FROM THE PEOPLE OF THE TERRITORY. IN ORDER TO PRESERVE ITS STRATEGIC INTERESTES IN THE TERRITORY CMA THROUG THE IMPOSITIO OF THE ALI AREF PUPPET REGIME CMA THE FRENCH COLINIAL POWER IS FULLY DEPLOYING ITS HUGE MILITARY FORCES STATIONED IN THE TERRITORY AND IS CURRENTLY ENGAGED IN THE PROCESS OF INCREASING TIS FORCES AND ENLARGIN ITS DEFENCE INSTALLATIONS OF THE TERITORY. THUS THE OPPOSITI PARTIES AND LIBERATION MOVEMENTS CMA WHO ARE THE LEGITIMATE REPRESENTATIVES OF THE PEOPLE CMA ARE BEING SUBJECTED TO CONSTANT HARASSMENT CMA ARRESTS AND TORTURE

.../...

CMA ARE BEING SUBJECTED TO CONSTANT HARASSMENT CMA ARRESTS AND TORTURE CMA WHILLE MANY OF THEIR LEADERS ARE SUMARILY BEING DEPORTED FROM THE TERRITORY . ALL POLITICAL ATIVITY AND OPPOSITION TO THE LOCAL REGIME IS THEREFORE PROHIBITED AND THE VOICE OF THE MASSES IS SILENCED THROUGH INDISCRIMANATE KILLINGS CMA CONSTANT SEARCHING IN THE HOMES OF THOSE SUSPECTED OF SYMPATHISING WITH THE PROGRESSIVE FORCES AND A STATE OF INCREASING TENSION IS DAILY DEVELOPING AND AN EXPLOSIVE EMERGENCY SITUATION IS PREVAILING THERE. IT IS MY CONVICTION EXCELLENCY THAT IN VIEW OF THE ABOVE CRITICAL SITUATION AND ITS IMPLICATIONS FOR THE STABILITY AND PEACE IN THE REGION WE DEEMED IT NECESSARY TO INFORM YOU AND APPEAL TO YOUR EXCELLENCY SO THAT YOU MAY INTERVENE IN THE MATTER AND RENDER JUSTICE AND ALL POSSIBLE ASSISTANCE TO THE PEOPLE OF FRENCH SOMALILAND IN ORDER TO ENABLE THE TO ATTAIN THEIR SACRED RIGHT TO GENUINE AND UNCONDITIONAL INDEPENDENCE. FINALLY WE CONSIDER IT PERTINENT TO INFORM YOU ON THE CONSISTENT VIOLATIONS OF THE INTERNATIONAL NORMS AND PRACTICE RELATING TO THE DIPLOMATIC IMMUNITY. AS A MATTER OF FACT THE SOMALI CONSULATE GENERAL IN DJIBOUTI HAS BEEN SUBJECTE FOR MORE THANT TWO WEEKS TO A STATE OF SEIGEBY THE COLONIAL GENDERMARINE AND THE STAFF AND THEIR CARS ARE BEING DAILY PERQUISITIONED AND HARISSED DESPITE STRONG PROTESTS TO THE FRENCH GOVERNMENT BY THE SOMALI DEMOCRATIC REPUBLIC. IT IS UNFORTUNATE TO NOTE THAT THE FRENCH GOVERNMENT HAS NOT SO FAR GIVEN ANY JUSTIFICATION TO THE VIOULATIONS.

PLEASE ACCEPT YOUR EXCELLENCY MY HIGHEST ESTEEM/-

MAJOR GENERAL MOHAMED SIAD BARRE
PRESIDENT OF THE SUPREME REVOLUTIONARYCOUNCIL./-

JAMHUURIYADDA DIMUQ. SOOMAALIYA
Madaxtooyada Golaha Sare ee Kacaanka

MADAXWEYNAHA

SOMALI DEMOCRATIC REPUBLIC
Presidency of the Supreme Revolutionary Council

THE PRESIDENT

My Dear Brother,

Allow me first and foremost to extend, on behalf of the Supreme Revolutionary Council, the Government and the people of the Somali Democratic Republic and in my own, to Your Excellency and through you to the Government and fraternal people of Ivory Coast my brotherly greetings and sincere best wishes for Your Excellency's good health and for the progress and prosperity of your people.

Indeed, I recall with great pleasure the memorable visit which I have had the honour to pay to your great and beautiful country in late 1974 and the warm reception and hospitality extended to me and my delegation which no doubt was a clear manifestation of the close and deep fraternal sentiments of friendship and brotherhood happily existing between our two peoples.

I also recall with a sense of inspiration our very fruitful discussions touching upon our bilateral relations as well as

H.E. FELIX HOUPHOUET-BOIGNY,
PRESIDENT OF THE REPUBLIC OF IVORY COAST,
ABIDJAN.

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JAMHUURIYADDA DIMUQ. SOOMAALIYA
Madaxtooyada Golaha Sare ee Kacaanka

MADAXWEYNAHA

SOMALI DEMOCRATIC REPUBLIC
Presidency of the Supreme Revolutionary Council

THE PRESIDENT

African and international issues, which afforded me the opportunity not only for a brotherly exchange of views but also the occasion to benefit from your wisdom, sagacity and able-statesmanship; particularly on matters pertaining to African unity and co-operation as well as the total liberation of our continent from colonial bondage and racial domination. This has left a positive and lasting imprint on my mind since your constructive ideas have and would, I am confident, continue to contribute to the furtherance of the noble ideals and fundamental principles for which we all yearn and resolutely stand for and in particular our long cherished cardinal goal of eradication of all forms of colonialism and racial domination from Africa.

Excellency, I wish at this juncture to address myself to the issue of the decolonization of the Somali Coast (French Somaliland) which, as you no doubt are aware, has now reached a crucial stage which will be decisive in the determination of the future destiny of the people of the territory.

In this regard Your Excellency is no doubt as much aware that the Government of the Republic of France has been in contact with the Somali Democratic Republic recently. During the course of official discussions, we called upon the French

JAMHUURIYADDA DIMUQ. SOOMAALIYA
Madaxtooyada Golaha Sare ee Kacaanka

MADAXWEYNAHA

SOMALI DEMOCRATIC REPUBLIC
Presidency of the Supreme Revolutionary Council

THE PRESIDENT

Government to take the necessary measures in order to create an atmosphere that will enable the people of the territory to fully exercise their rights under the fullest democratic conditions for the attainment of their noble aspirations to genuine immediate and unconditional independence in accordance with the relevant Resolutions of the Organization of African Unity, the Arab League, the Non-Aligned nations Conferences and the United Nations.

I sincerely trust, confident as I am in Your Excellency's firm commitment and dedication to the cause of total liberation of our continent, that you will spare no effort in rendering your valuable contribution to the immediate realization of genuine and unconditional independence to the people of the territory.

With these considerations I have pleasure to send you this message with Jaalle Dr. Hussein Abdulkadir Kassim, our Secretary of State for Mineral and Water Resources, who will brief Your Excellency on the latest major development in our country as well as on the issue of decolonization of the Somali Coast and discuss with you our bilateral relations in particular and the situation in Africa in general. I have given him full

./

JAMHUURIYADDA DIMUQ. SOOMAALIYA
Madaxtooyada Golaha Sare ee Kacaanka

MADAXWEYNAHA

SOMALI DEMOCRATIC REPUBLIC
Presidency of the Supreme Revolutionary Council

THE PRESIDENT

credence in discussing these vital matters with you on my behalf and you may also wish to convey to me through him any advice or idea designed to further the African cause and to further enhance our bilateral co-operation.

Once again, please accept Excellency and Brother the expressions and assurances of my highest fraternal consideration and esteem together with my sincere wishes for your continued health and happiness and for the progress and prosperity of your country.

Mogadishu, 13th April, 1976.

MAJOR-GENERAL MOHAMED SIAD BARRE,
PRESIDENT OF THE SUPREME REVOLUTIONARY COUNCIL.

Message Text

SECRET

PAGE 01 ABIDJA 00003 011601Z
ACTION SS-25
INFO OCT-01 ISO-00 SSO-00 /026 W
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O 011425Z JAN 78
FM AMEMBASSY ABIDJAN
TO SECSTATE WASHDC NIACT IMMEDIATE 6767

S E C R E T
ABIDJAN 0003

EXDIS

FOR EXECUTIVE SECRETARY - PLEASE PASS TO SECRETARY VANCE AND REPEAT REF (C) AND (D)

E.O. 11652: XGDS-2
TAGS: PGOV, IV, US
SUBJECT: HOUPHOUET'S MESSAGE TO PRESIDENT CARTER AND SECRETARY'S MEETING WITH GHOULEM BERRAH

REF: (A) SECTO 13024; (B) TOSEC 130029 (STATE 309968); (C) ABIDJAN 11931; ((D) ABIDJAN 11909

1. AT PRESIDENT HOUPHOUET-BOIGNY'S NEW YEAR'S DAY RECEPTION FOR DIPLOMATIC CORPS THIS MORNING HOUPHOUET TOOK ME ASIDE TO DISCUSS BRIEFLY HIS MESSAGE TO PRESIDENT CARTER. CONTRARY TO MY ASSUMPTION (REFTEL B), MESSAGE DOES NOT RPT NOT DEAL WITH ARAB-ISRAEL QUESTION BUT WITH HOUPHOUET'S RECENT INITIATIVE TO PERSUADE SOMALI PRESIDENT SIAD BARRE TO IMPROVE RELATIONS WITH KENYA (REFTELS C AND D). HOUPHOUET SAID HE WAS EXTREMELY GRATIFIED WITH SIAD BARRE'S RESPONSE AND BELIEVED THAT SOMALI PRESIDENT'S WILLINGNESS TO SIGN NON-AGGRESSION PACT WITH KENYA SHOULD OPEN THE WAY TO COMPLETE NORMALIZATION OF SOMALI-KENYA RELATIONS. HOUPHOUET WISHED PRESIDENT CARTER TO HAVE A DIRECT ACCOUNT OF THESE DEVELOPMENTS, SINCE US AS WELL AS UK INFLUENCE WOULD BE ESSENTIAL TO KEEP MATTERS ON COURSE, AND HAD WRITTEN THE MESSAGE TO BE DELIVERED BY GHOULEM BERRAH FOR THIS PURPOSE.

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2. I TOLD HOUPHOUET THAT SECRETARY VANCE WOULD BE GLAD TO RECEIV

BERRAH IN RIYADH (REFTEL A) AND THAT AS SOON AS I RECEIVED FURTHER INFORMATION ON THE TIME AND PLACE I WOULD PASS IT ALONG TO HOUPHOUET' S AIDE, GEORGES OUEGNIN, SO THAT BERRAH COULD BE ALERTED.
I ASKED HOUPHOUET WHETHER HIS MESSAGE TO THE PRESIDENT ADDRESSED

OTHER SUBJECTS THAN SOMALI-KENYAN RELATIONS. HOUPHOUET SAID THAT IT DID NOT, BUT THAT BERRAH FOLLOWED MID-EAST DEVELOPMENTS CLOSELY ON HOUPHOUET'S BEHALF AND ANY THOUGHTS THAT SECRETARY VANCE COULD IMPART TO BERRAH ON THE STATUS OF EGYPTIAN-ISRAELI NEGOTIA- TIONS, AND RELATED DEVELOPMENTS, WOULD BE OF GREAT VALUE TO HOUPHOUET.

3. I SAID THAT I WOULD CONVEY THIS TO THE SECRETARY AND HOUPHOUET ASKED THAT I ALSO EXPRESS HIS NEW YEAR'S GREETINGS. AND PERSONAL REGARDS TO PRESIDENT CARTER AND TO THE SECRETARY HOUPHOUET GREATLY APPRECIATED THE SECRETARY'S WILLINGNESS TO SEE BERRAH IN RIYADH AND HOPED HE WOULD FIND HIS MESSAGE TO PRESIDENT CARTER ENCOURAGING AND USEFUL.
STEARNS

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NNN

President Houphouët and Dr. Kwame Nkrumah

President Houphouët and General De Gaulle

With my wife and invited guests at UNESCO ceremony

President Houphouët, De Klerk, and Nelson Mandela

Meeting with President Bourguiba

With President Nyerere in Bouaké

On deck of the Netherlands royal yacht with the president

President Houphouët and Queen Juliana

In formal attire with medallions

الفجر الجديد

السبت ٢٣ من ذى القعدة ١٣٩٧ هـ الموافق ٥ من نوفمبر ١٩٧٧ م.

الاخ العقيد يستقبل المبعوث الشخصى لرئيس جمهورية ساحل العاج

طرابلس – اوج :

استقبل الاخ العقيد معمر القذافى قائد ثورة الفاتح من سبتمبر العظيمة مساء امس الدكتور غلام البراح المبعوث الشخصى للسيد هوات بوانيه رئيس جمهورية ساحل العاج.

وحضر المقابلة التى نقل خلالها المبعوث رسالة للاخ العقيد من رئيس جمهورية ساحل العاج الدكتور على عبد السلام التريكى امين الخارجية.

With Colonel Gaddafi

President Abdelaziz Bouteflika

My Last Encounter with Dr. El Khatib

Epilogue - Page 624

Twenty years of divine grace

Forty years of divine grace