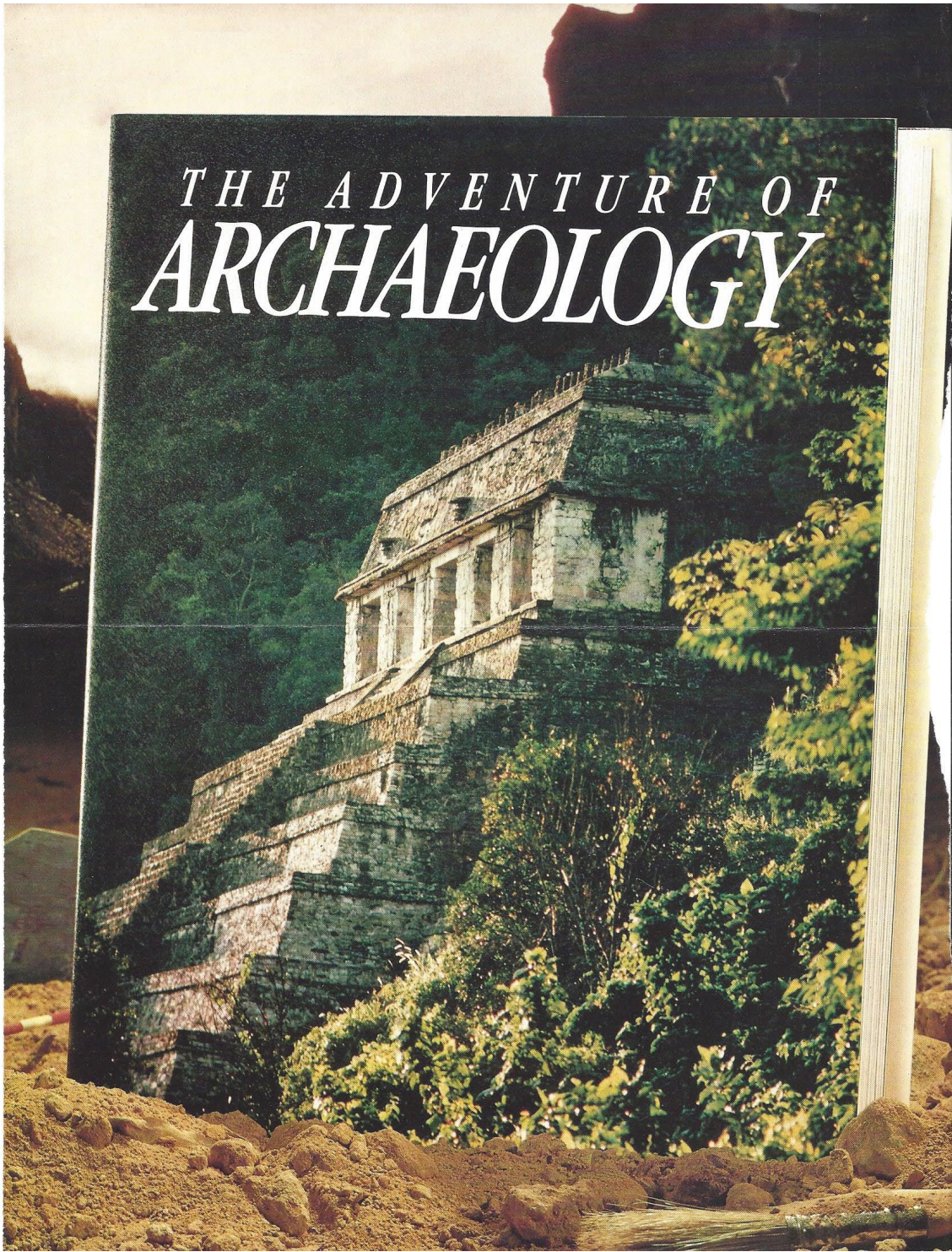


TRAVELS NOW AND THEN

© Christopher Earls Brennan

YUCATAN 1982





Chichen
Chichen Old
El Camacol
Temple of Panch Wallis
Nunnery

Palengue
Temple of the Inscriptions
Panels on
The Palace
(all in ruins)

SH EF

TESORERIA DE LA FEDERACION

6 FEB. 1982

\$15.00

H.I.V.-1

T.I.E.V.

No 1509

Autotransportes de Oriente - Mérida - Puerto Juárez, S. de C. de C. V.

Mérida - Chichén Itzá

Este boleto es bueno únicamente por un viaje en la fecha y para la hora que se expide, más derecho al Seguro del Viajero y hasta 30 Kgs. de equipaje y de responsabilidad a los pasajeros, siempre que los soliciten.

EL EQUIPO DE MANO ES RESPONSABILIDAD DEL PASAJERO

VALOR 68.00

72

PRIMERA CLASE

16.30

Sociedad Cooperativa de Autotransportes
F.U.T.V. - S.C.L.
TEL. 3-03-91 Mérida, Yucatán.
Reg. Fed. Caus. SCA-780124

Fecha _____ Hora _____

VIAJE EXCLUSIVO
COLONIAS - \$ 160.00
TAXI

Este Boleto le da derecho a:
Seguro de Viajero.
30 Kgs. de Equipaje.
Válido solo para el día de su expedición.

No 12322

98 X 29

Merida City que.

FERNANDES

29

YUCATAN

EP

7 FEB. 1982

\$10.00

Serie B

TESORERIA DE LA FEDERACION

7 FEB. 1982

\$10.00

Serie B

T.I.E.V.

Control / Controle

Asiento Seat Siege

Control / Controle

Observaciones Remarks Observations

aeroméxico

Pase de abordar Boarding Pass Carte d'accès a bord

V. HERMOSA

500 COBRESE

Vuelo / Flight / Vol Fecha / Date

Asiento Seat Siege

Control / Controle



Dicks'

TRAVEL SERVICE

140 NORTH LAKE AVENUE • PASADENA, CALIFORNIA 91101 • (213) 449-2223 / 384-3533

SALES PERSON: AD
CUSTOMER NBR: CITCHG

ITINERARY/INVOICE NO. 0006416

DATE: 29 JAN 82
PAGE: 1

TO: CALIFORNIA INSTITUTE OF TECHNOLOGY

AIRLINES • STEAMSHIPS
TOURS • CRUISES

FOR: BRENNEN/CHRIS PROF

01 JAN 82 - SUNDAY

AIR	LV LOS ANGELES	015 AM	DELTA	FLT:1120	COACH CLASS
	AR ATLANTA	005 PM	NON-STOP	BREAKFAST	
AIR	LV ATLANTA	411 PM	DELTA	FLT:357	COACH CLASS
	AR TAMPA	520 PM	NON-STOP	SNACK	
CAR	TAMPA	BUDGET RENT A CAR 1-COMPACT CAR			
		RETURN-02FEB			
CONFO NBR 0200294139					

02 FEB 82 - TUESDAY

AIR	LV TAMPA	420 PM	EASTERN	FLT:720	COACH CLASS
	AR ATLANTA	542 PM	NON-STOP		
AIR	LV ATLANTA	000 PM	REPUBLIC	FLT:209	COACH CLASS
	AR HUNTSVIL/DECATU	740 PM	NON-STOP		
HOTEL	HSV	SKYCENTER HOTEL		2 NIGHTS OUT-04FEB	
	RATE-46.00	1 ROOM SINGLE BED		GUARNTD LTE ARVL	
	10001 HWY 20#FONE 205-772-9661#CONF. BY FLEMING				
CAR	HUNTSVIL/DECATU	BUDGET RENT A CAR 1-COMPACT CAR			
		RETURN-04FEB			
WANTS CAR ON FEB 3 7AM PICK UP AT AIRPORT					
CONFO NBR 0201717416					

04 FEB 82 - THURSDAY

AIR	LV HUNTSVIL/DECATU	650 AM	REPUBLIC	FLT:633	COACH CLASS
	AR ATLANTA	030 AM	NON-STOP		
AIR	LV ATLANTA	1040 AM	EASTERN	FLT:933	COACH CLASS
	AR NEW ORLEANS	1100 AM	NON-STOP		
AIR	LV NEW ORLEANS	1150 AM	EASTERN	FLT:911	COACH CLASS
	AR MERIDA, MEX.	224 PM	NON-STOP	LUNCH	

08 FEB 82 - MONDAY

AIR	LV MERIDA, MEX.	1100 AM	CONTINENTAL	FLT:947	COACH CLASS
	AR LOS ANGELES	421 PM	1-STOP	LUNCH	

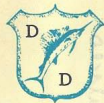
AIR TICKETS FOR BRENNEN CHRISPROF TKT NBR. DL7090166318/19 767.00

SUB TOTAL 767.00

TOTAL AMOUNT DUE 767.00

REMARKS-
THANK YOU AND HAVE A PLEASANT TRIP

633
134
116
250



Dicks'

TRAVEL SERVICE

140 NORTH LAKE AVENUE • PASADENA, CALIFORNIA 91101 • (213) 449-2223 / 681-3533

SALES PERSON: AO ITINERARY/INVOICE NO. 0006411
CUSTOMER NBR: CITCHG

DATE: 29 JAN 8
PAGE: 1

TO: CALIFORNIA INSTITUTE OF TECHNOLOGY

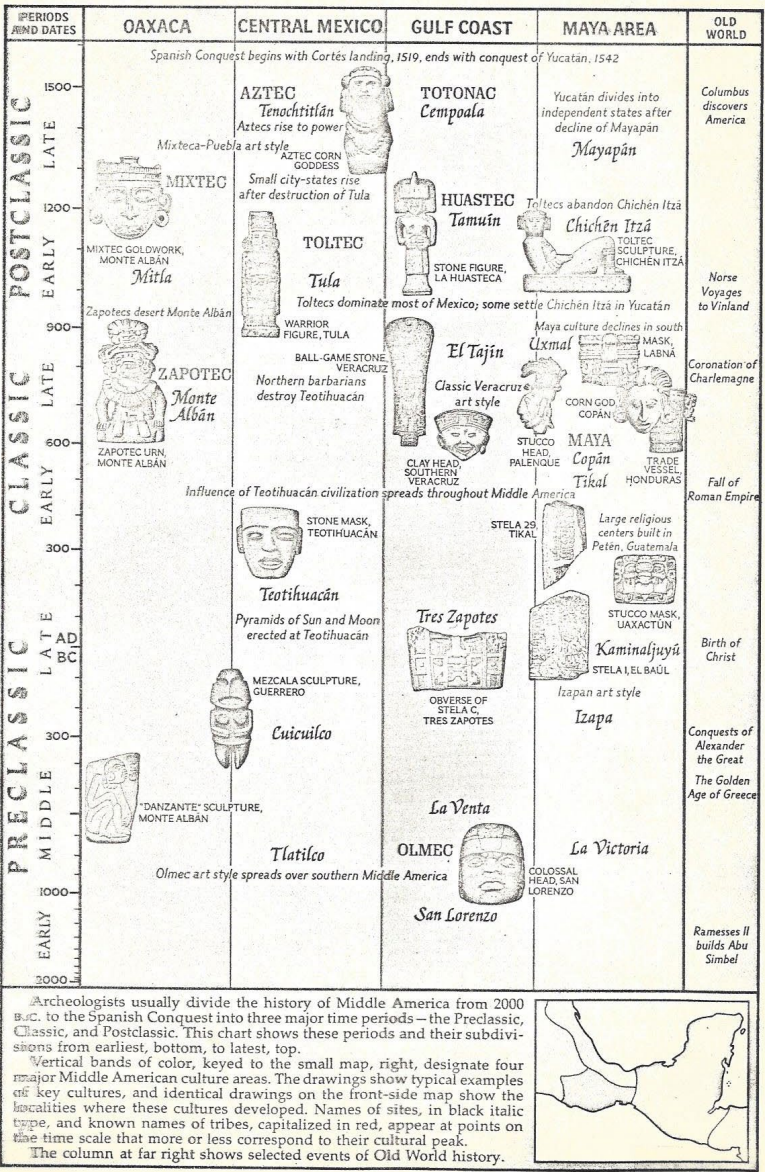
AIRLINES • STEAMSHIPS
TOURS • CRUISES

FOR: BRENNEN/CHRIS PROF

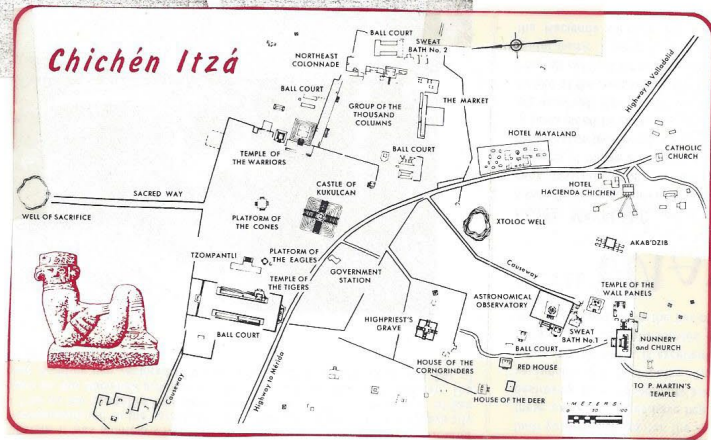
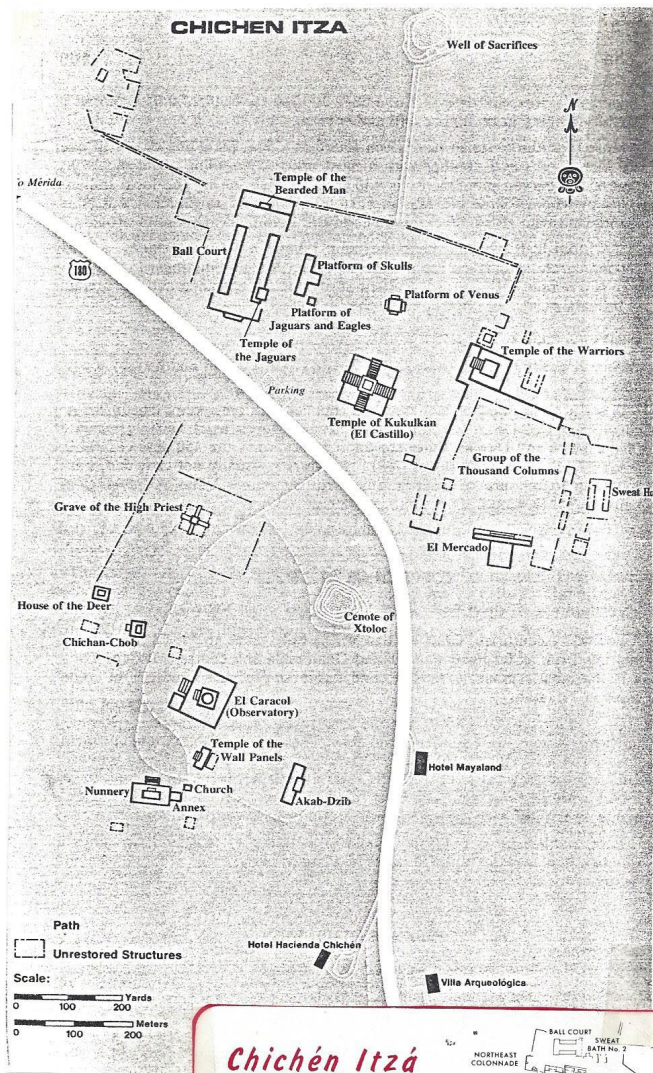
07 FEB 82	-	SUNDAY					
AIR	LV MERIDA, MEX.	800 AM	AEROMEXICO	FLT:500	COACH CLASS		
	AR VILLAHERMOSA	755 AM	NON-STOP	BREAKFAST			
AIR	LV VILLAHERMOSA	1015 PM	AEROMEXICO	FLT:513	COACH CLASS		
08 FEB 82	-	MONDAY					
	AR MERIDA, MEX.	1205 AM	NON-STOP				
AIR TICKETS FOR BRENNEN CHRISPROF				TKT NBR	AM7000166313	116.00	
SUB TOTAL						116.00	
TOTAL AMOUNT DUE						116.00	

REMARKS-
THANK YOU AND HAVE A PLEASANT TRIP

THE YARDSTICK OF TIME IN MIDDLE AMERICA









El Castillo at Chichen Itza



Inside El Castillo at Chichen Itza



Chacmol at Chichen Itza



Temple of the Jaguars



Temple of the Jaguars



Ball field at Chichen Itza



Well of Sacrifice, Chichen Itza



Temple of the Warriors

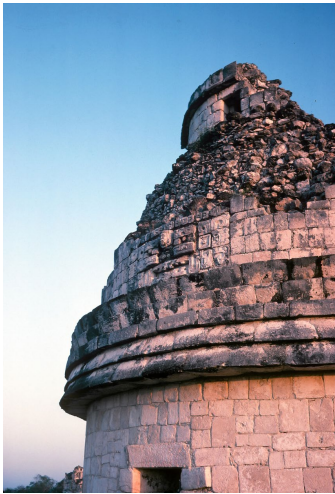




Temple of the Warriors



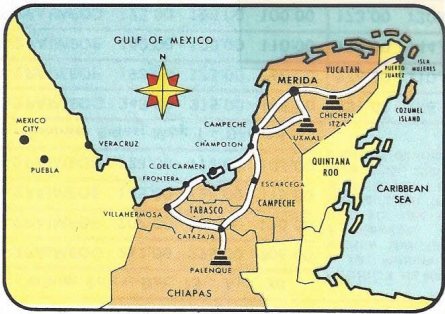
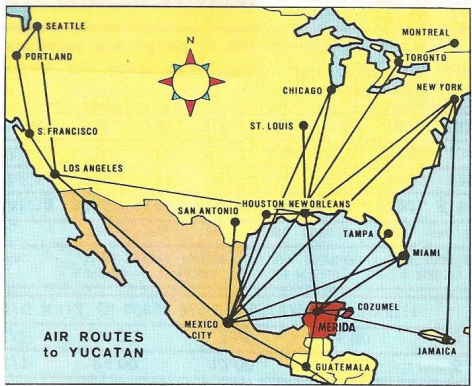
South area, Chichen Itza



South area, Chichen Itza

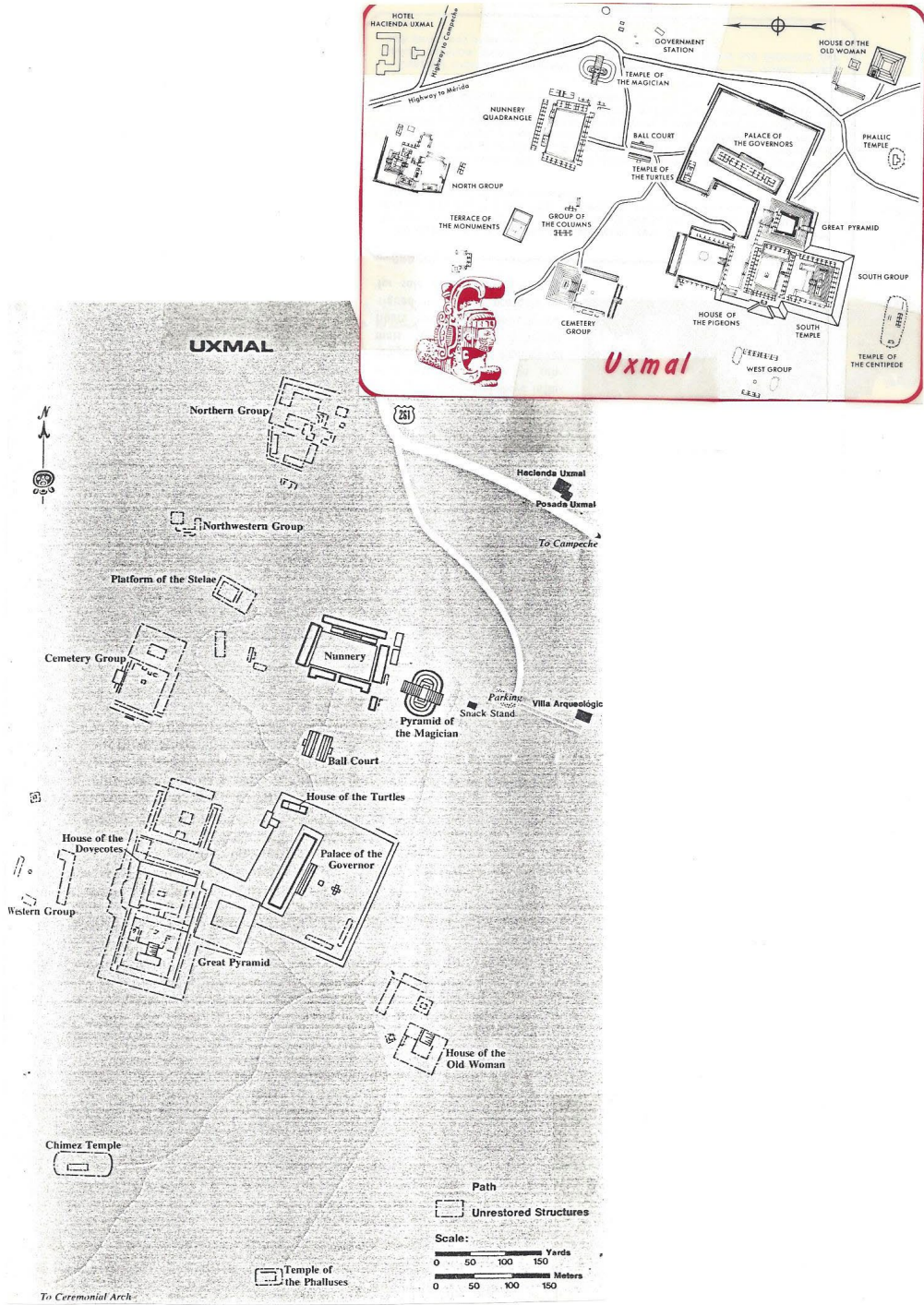


South area, Chichen Itza



MILEAGE and DRIVING and FLIGHT TIMES- ONE-WAY			
From	To	Mileage	Time
Mérida	Chichén Itzá	80 miles	2 hours *
Mérida	Uxmal	50 miles	1 hour *
Uxmal	Kabáh	14 miles	20 min. *
Chichén Itzá	Puerto Juárez	125 miles	3 hours *
Puerto Juárez	Isla Mujeres by ferry		45 minutes
Mérida	Cozumel by air		50 minutes
Uxmal	Campeche	110 miles	2 1/4 hours *
Uxmal	Palenque	356 miles	6 1/2 hours *
Palenque	Villahermosa	117 miles	2 1/2 hours *
Mérida	Sisal	27.6 miles	3/4 hour *
Mérida	Progreso	21.6 miles	1 2 hour *

* by automobile





Great Pyramid, Uxmal



Uxmal



Uxmal



Uxmal



Uxmal

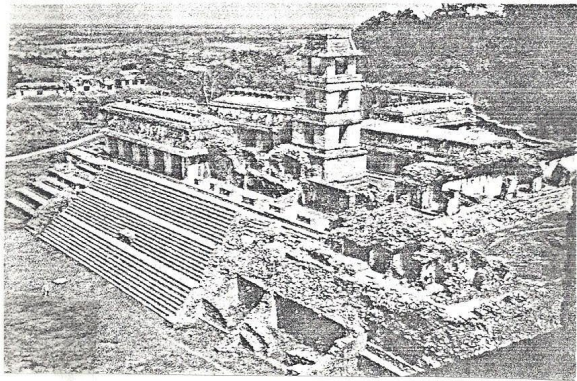
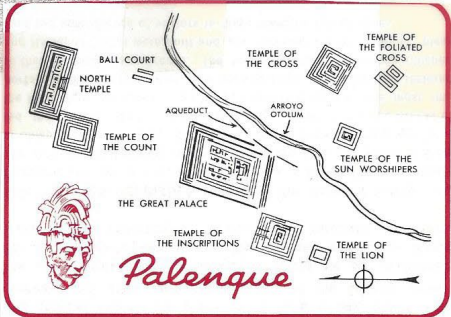
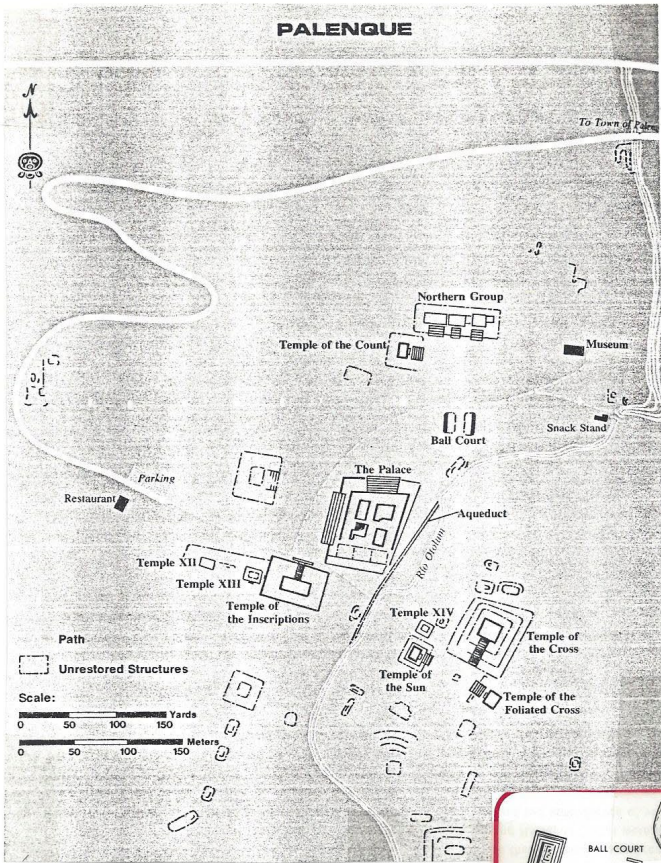


Uxmal



Uxmal





PALENQUE was barely visible in the sea of the jungle. It seemed to hang on the edge of the mountains, set at the very edge of an outlying finger of a jungle range projecting from the Tumbala escarpment. It looked down over a gentle undulating plain, where once, a thousand years ago, checkered milpas supplied the builders and later the occupants of the acropolis at Palenque.

Eighty miles distant lay the Laguna de Términos. The Maya craftsmen had shown great architectural daring to set their buildings at the very edge of a steep gorge six hundred feet above the costal plain. Palenque hung there like an unshed tear. Above it, back of it, the forest-clad mountains rose abruptly, huge and dominant, projecting verdure-covered heads three thousand feet into the sky.



Hertz		OFICINAS GENERALES: CALLE 55 No. 479 TELS.: 1-93-33 Y 1-80-20		MERIDA, YUCATAN, MEXICO.	
LICENSEE:		COZUMEL, Q. ROO, MEX. HOTEL COZUMEL CARIBE. TELS. 2-01-00 Y 2-00-21 — CANCUN, Q. ROO, MEX. CENTRO 3-09-38. HOTEL ARISTOS 3-01-00, CANCUN CARIBE. TEL. 3-00-44. SHERATON. TEL. 3-01-35 OAXACA, OAX. BUSTAMANTE 620. TEL. 8-19-91 — VILLAHERMOSA, TAB., MEX. — HOTEL MAYA, TAB., MEX. BASCO. TEL. 2-11-11. HOTEL VIVA. TEL. 2-55-55 — COATZACOALCOS, VER., MEX. HOTEL MARGON. TEL. 2-05-72.			
REG. FED. CAUS: AAT:760817		Y EN LOS AEROPUERTOS DE ESTAS CIUDADES.			

4070 0001 4910 6533		CONTRATO		Nº 052149	
05-81 - 05-83 VISA		RENTAL AGREEMENT			
CHRISTOPHER E BRENNEN		VEHICULO MARCA MODELO 2673		ENTRADA IN 7/12/82	
360 QUILIC TAFE 104C		PLACAS NUMERO PAS 210		SALIDA OUT 0 57	
SIERRA MADRE		CONDUCTO LUGAR 01 03		KMS OUT 0 57	
CAL 9104N		REGRESA DIA—HORA 7/12/82		KMS OUT 0 57	
TARJETA DE CREDITO CHARGE CARD 3 VISA		LUGAR 03		KMS RECORRIDOS DRIVEN 0 0	
LICENCIA No. LUGAR VENCIMIENTO 0587168 CAL 1981		PREPARADO POR AREAZ		KMS. A KMS. AT 500 19	
IDENTIFICACION 16 DIC. Toluca		CHECK IN No.		HORAS A HOURS AT.	
DOM. LOCAL PASO PALENQUE		CHECADOR POR BLANCO		DIAS A DAYS AT 750	
SEGUNDA DIRECCION HOTEL DEL PARQUE		7 RENUNCIA DE DAÑOS POR CHOQUE		SEMANAS A WEEKS AT	
		Mediante sus iniciales, el arrendatario conviene en pagar una cuota adicional de por día o fracción y el arrendador conviene en renunciar a sus derechos de recuperar del arrendatario cualquier daño por colisión del vehículo arrendado a que se refiere el presente, siempre y cuando sea utilizado o manejado de acuerdo con este contrato de arrendamiento pero el arrendatario será totalmente responsable de todo daño si dicho vehículo fuera utilizado o manejado violando cualquiera ley o la legislación de esta entidad.		SUB-TOTAL SUBTOTAL 269	
				CARGO POR ALQUILER RENTAL CHARGE AIRF	

4070 0001 4910 6533		BANCOMER, S. A. INSTITUCION DE BANCA MULTIPLE	
05-81 05-83VISA			
CHRISTOPHER E BRENNEN			
4 523985			
HERTZ.ALG.AUTOS.TAB.			
VILLAHERMOSA,TAB.			
Hotel Maya			
Mr. Cien yuegos			
02 IDC 33 D			
DOMICILIO CIUDAD			
FIRMA			
PARA SU SEGURIDAD Y NUESTRO CONTROL, SIRVA INDICAR LA CANTIDAD TOTAL POR USTED PAGADA Y LA FORMA COMO LA PAGO, ESTA ES UNA INFORMACION ADICIONAL PARA NUESTRO DEPARTAMENTO DE RELACIONES CON LOS CLIENTES.			
FOR YOUR PROTECTION AND OUR CONTROL, PLEASE INDICATE THE TOTAL AMOUNT OF YOUR BILL AND THE FORM OF PAYMENT THIS IS AN ADDITIONAL INFORMATION FOR OUR CUSTOMER RELATIONS DEPARTMENT.			
CANTIDAD PAGADA \$ AMOUNT PAID	INDICAR FORMA DE PAGO [CONTADO O TARJETA] FORM OF PAYMENT [CASH OR CREDIT]		
FORMA DE PAGO [CONTADO O TARJETA] FORM OF PAYMENT [CASH OR CREDIT]		FIRMA SIGNATURE	

DIA	MES	AÑO	DEPARTAMENTO	VENDEDOR NUM	VENDEDOR INIC.	NUM. AUTORIZACION
7	2	82				
CANTIDAD	DESCRIPCION DE LA COMPRA O SERV.	IMPORTE				
	"POR ESTE PAGARE ME OBLIGO INCONDICIONALMENTE A PAGAR A LA ORDEN DE BANCOMER, S. A. EL VALOR QUE APARECE EN EL TOTAL DE ESTE TITULO Y SUS INTERESES EN LOS TERMINOS DE LA CLAUDULA SEXTA AL REVERSO TRANSCRITA"	IMPUESTO				
		SUB-TOTAL				
		PROPIAS Y DIVERSOS				
		TOTAL M. N.	3208			
FIRMA DEL SUSCRIPTOR		TIPO DE CAMBIO EQUIVALENTE MON. EXT.				

AMERICANA, S. A. No. APV-106 ACEPTO:	REFUND RECEIVED BY (SIGNATURE)
CONTRATO	TOTAL MONEDA NACIONAL IN LOCAL CURRENCY
RENTAL AGREEMENT	NET DUE U.S. CURRENT RATE
No. 052149	
ESTIMADO CLIENTE FAVOR DE LEER LOS TERMINOS Y CONDICIONES DEL REVERSO DE ESTA PAGINA	ENTER PLEASE READ TERMS ON REVERSE SIDE OF THIS PAGE
HE LEIDO TERMINOS Y CONDICIONES EN EL REVERSO DE ESTA PAGINA Y ESTOY DE ACUERDO EN TODAS SUS PARTES.	I HAVE READ TERMS AND I AGREE TO ALL OF THIS PAGE
FIRMA SIGNATURE	
EL CLIENTE ES RESPONSABLE DE TODAS LAS INFRACCIONES DE TRANSITO RENTER IS LIABLE FOR ALL PARKING OR TRAFFIC VIOLATIONS	

PLEASE SEND ALL MAIL TO CALL 55 No. 479
DIRIGIR SU CORRESPONDENCIA A: MERIDA, YUC.
GASOLINA NO INCLUIDA GASOLINE IS NOT INCLUDED

Sun. Feb.7, 1982

Flew Aeromexico 500 from Merida to Villahermosa.



Palenque



Palenque



Palenque



Palenque



Palenque



Palenque



Palenque

8.00 AM → 7.55

7.00 AM → 7.55

10.00 AM → 12.00 (ex. Sun)

5.25 → 6.20

OK Sunday

7th

AM 500

5T 17

(1,3,5,7) AM 512

Meinda → Villahermosa

AM 501

12.30 → 2.30 (Ex. Sun)

10.15 PM → 11.05

11.30 → 12.20

5T

AM 513 (1,3,5,7)

AM 501

Villahermosa → Meinda

MON.

11.30 PM → 12.20

1.20

Palenque → Meinda

11.30 PM → 1.20 PM

Aeros

513

11.30

Hertz Confirmation No.

4411-4476

-18-8

Villahermosa

Va Hotel

8.00 AM

Villahermosa

Avis, Hertz

31 Jan 8.15 → 3.05 Atlanta } \$155 → \$155
4.15 → 5.20 }
2 Feb. 4.20 - 5.42 } 8.00 → 7.40 } \$171
4 Feb. 6.50 → 8.30 → 10.40 → 11.00 } \$142
NO. → Merida 11.50 → 2.24 \$107

Cont Mexicana 8 Feb (MON) \$196.80
Merida 11.00 AM → LAX 4.21 PM. CONT.

771.80 Mexicana 6.05 PM → Mex C
→ 10.25 PM.

NO → LAX
\$ 165

Normal \$633.00
771.00
633.00
138.00

31

Sun

L.A. → Tampa

9.05 AM → 6.25 PM

Huntville #112

82/141 via ATL

179

1

Mon

2

Tues

Tampa → Atl.

4.20 5.42

720

Atl. → Huntsville

8.00 → 7.40 RC

209

3

Wed

Huntsville → Atl.

6.50 → 8.30 RC⁶³³

7.50 → 9.45

4

Thurs

Atl. → Merida

10.40 AM → 1.24

933/911 via N.O.

Fri

Old Merida → Uxmal 2.40 → 3.35 4.15 → 5.40 (?) (Acromexica)

Villahermosa → Palenque ?

Night in Palenque

Palenque → Villahermosa → Merida (9.40 → 11.40)

640 224

\$224

640 672

229

458

224

682

9

6

Sat

Merida → Uxmal.

Uxmal → Merida

Sun Merida → C.I.

Sat C.I.

Atl. → L.A.

6.55 → 7.18

8.20

MON

C.I. → Merida

Merida → L.A.

1.55 → (no) 5.04 (no) 8.20 → L.A. 1.50 AM.

7.10

5.04

7.10

NO → Atl.

9/24 → 9.20

12.15 AM → 1.50 AM

Atl. → L.A.

12.15 AM → 1.50 AM

3.60

6.55

Thurs Atlanta → Meida 10.40am → 1.24 933/911 Eastern via N.O.
Meida → Villahermosa

				Stay
	Thurs	At - Merida	10.40 → 1.24	
4		→ C.I. at	<u>4.00pm</u>	CI
5	Fri	Sate to Merida	← C.I.	Merida
6	Sat	→ Uxmal + Return	← Uxmal	Merida
7	Sun	Either Return		
	OR	7.00 → 7.55	Merida → Villahermosa	AM 500
		<u>Villahermosa → Palenque</u>		
	MON	<u>Merida Palenque → Villahermosa</u>		
		Villahermosa → Merida	11.30 → 12.20	AM 501
		Merida → home	1.55 →	
				5.00

Atlanta → Merida	10.40 ^{am} - 1.24	933/911	MSY	Ex Tu We Sa
→ Cancun	10.40 - 1.22	933/911	MSY	Tu We Sa
	10.40 - 2.30	933/911	MSY	Ex Tu We Sa

Atl. - N.O. 933 10.40 - 11.00

N.O. → Merida	11.50 → 1.24	911	Ex Tu We Sa
Cancun	11.50 1.22	911	Tu We Sa
	11.50 2.30	911 (1)	Ex Tu We Sa

N.O. → L.A.	12.05 ^{pm} - 5.26 ^{pm}	} all through ATL.
	3.25 ^{pm} - 8.41 ^{pm}	
	8.20 ^{pm} - 1.50 ^{am}	

Merida → N.O.
1.55 → 5.04

Cancun → N.O.
3.27 → 5.04 (910) ← non stop

Cancun → Atlanta
1.15 → 4.42 (0) Sa Su
3.27 → 9.20 (N.O.)

Merida → Villahermosa
16.15 → 17.40
4.15 → 5.40 Aeromex de Mexico (Th + Sun.)

Miami - G.C. (Pan-Am) 14.15 \Rightarrow 15.40 or 16.40		
1. Night in G.C.	9.00	
2. Taxi Tikal	28.00	
Motel in G.C.	4.00	
3. G.C. to Merida, FA.	45.00	
To Chichén Itzá		
Hacienda Chichén		10.00
4. G.C. to Uxmal, Hacienda	12.00	
5. Hotel bus to Merida (or compare)		
Merida \rightarrow Villahermosa	18.40	
Villahermosa \rightarrow Palenque	5.40	
Hotel Palenque?	8.00	
6. Palenque.		
Gate Palenque \rightarrow Villahermosa	5.40	
Villahermosa \rightarrow Mexico	24.56	
Mexico	15.00	
	190.00	
7. Mexico	20.00	
8. Mexico	20.00	
Mexico \rightarrow L.A.	103.00	
	350.00	

\downarrow

{ Aviateca service G.C. \rightarrow TIK, 8.00 AM \rightarrow 9.20 AM. TIK. \rightarrow G.C. 4.00 \rightarrow 5.20 PM }

9.30 AM \rightarrow 10.30 AM (Tu, Th, Sat) AVIATECA.

(16.15 \rightarrow 17.40) Aeromexico de Mexico (Th + Sun) ~~350.00~~

Tabaquera Airlines

Tabaquera Airlines

(5.45 \rightarrow 7.35 AM Aeromexico) \rightarrow { M, W, F 4.45 \rightarrow 7.00
Tu, Sat 3.50 \rightarrow 6.05
Th, Sun 5.55 \rightarrow 8.10 }

Sun Tue Th

Mon Wed Fri

Tu Th Sat

We Fri Sun

Th Sat Mon

Fri Sun Tu

1. Arrive Mexico D.F.

2. Mexico.

3. Mexico

4. → Villahermosa → Palenque

5. Palenque → Villahermosa → Merida → ~~Chichen Itza~~

6. Chichen Itza

7. Uxmal

Grayline

Breakfast

Pyramids

Museum

Chapultepec Park.

Stay Palenque.

① Mex.

② Mex.

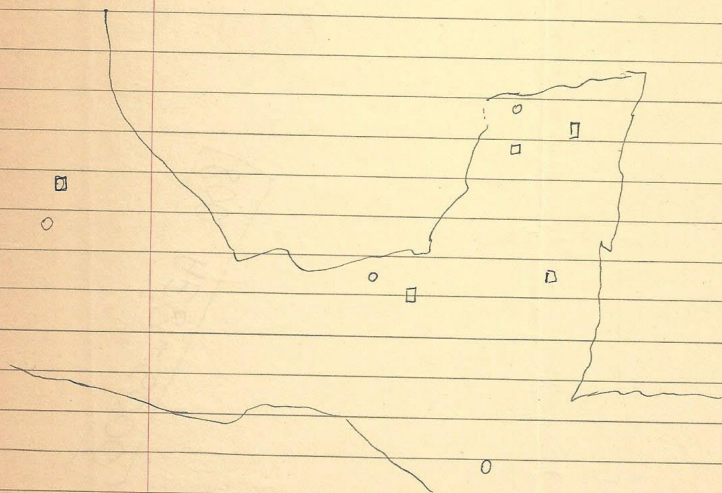
③ Mex.

④ Palenque

⑤ Merida

⑥ Merida

⑦ ?



Summary of Basic Research Areas

MEXICO

- ✓ Mexican Government Tourism Dept., 3106 Wilshire Blvd, L.A. 385-6438
- ✓ Mexican Airlines Travel Bureau, 360 S. Broadway. 624-6767
- ✓ Mexicana Airlines 624-2851 (512 W. 6th St, L.A.)
- ✓ (Mexican Natl. Tourist Council
DEPT. NGC-1 9445 Wilshire Blvd, 271-5296
BEVERLY HILLS, CAL. 90212
DUNCAN ✓

Dear Sirs,
My family and I are tentatively planning to visit Mexico City and vicinity, then the Yucatan Peninsula before flying on to Jamaica.

- ✓ AERONAVES DE MEXICO, 633 S. HILL ST, L.A. 626-7121
- ✓ MERIDA TRAVEL SERVICE, MERIDA, YUCATAN, MEXICO.
- ✓ JAMAICA TOURIST BOARD, 3075 WILSHIRE, L.A.

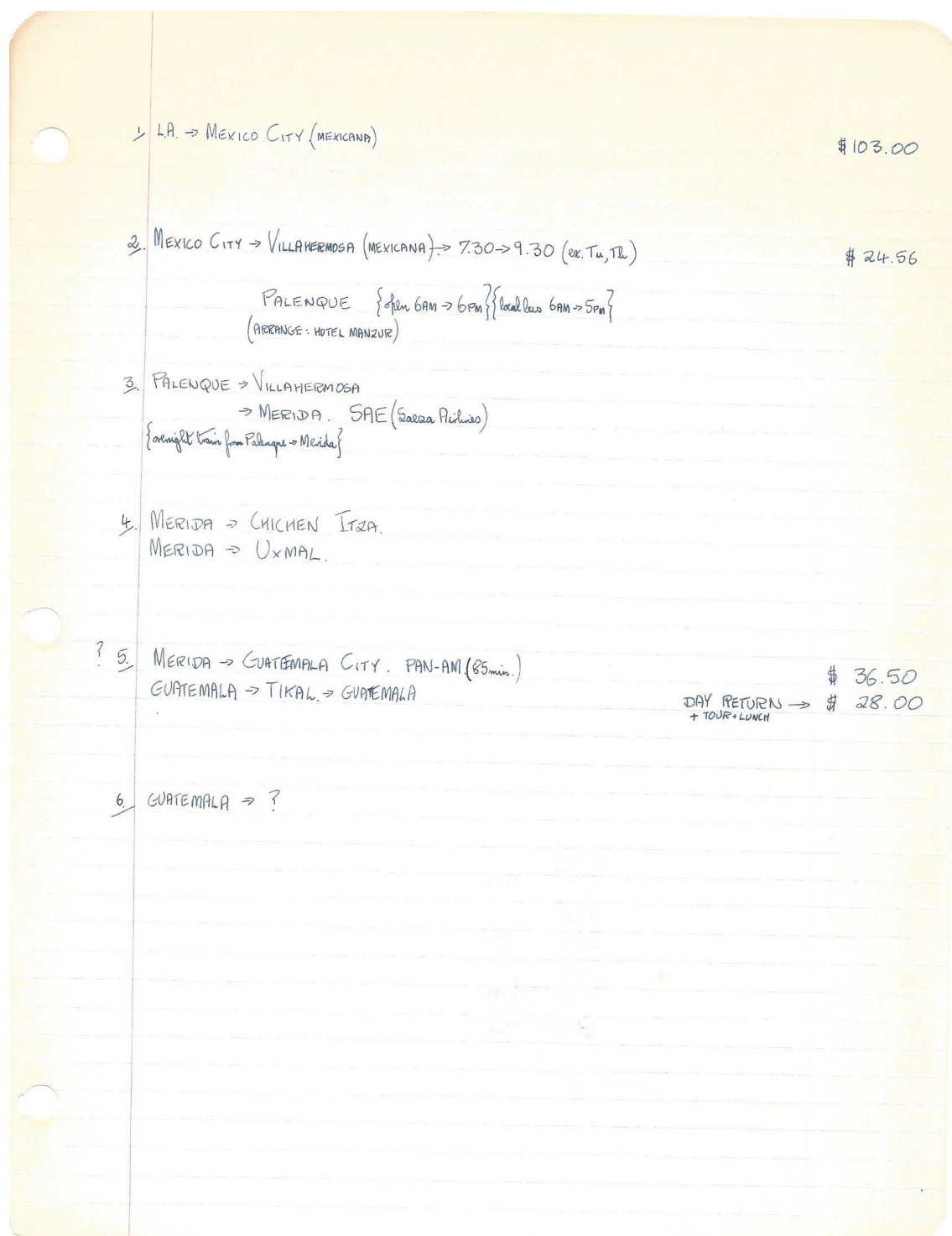
AMERICAN EXPRESS 800 AEB 5000

STAN WOLFGERS. Mexico. Manteco Palace Children's Art Shop - Eliza Canul
Mexico D.F. Bamer, El Presidente, Emphoro, Genere.

GUATEMALA CITY: Hotels: Guatemala Biltmore (#12-17), Maya Excelsior (#10-14), Pan American (#9-12)
✓ Travel Bureau; Turismo Rodsand, 5a Avenida 13-43, ZONA 1, 9th STREET # 6-36, ZONA 1, Guat. City.
JERRY'S TOURS / SUPER TRAVEL SERVICE
CLARK TOURS OF GUATEMALA, P.O. Box #591, Guat. City
✓ Information: Instituto Guatemalteco de Turismo, 1331 Madison Av., N.Y., N.Y. 10017
6a Avenida 5-34
ZONA 1.

Guatemala - Tikal, 1 hr flight, DC3, \$54 p.p. tip AVIATECA AIRLINES.

- ✓ AVIATECA AIRLINES, 247 S.E. 1 ST., MIAMI, FLORIDA.
- ✓ TRAVEL TOURS 444 MADISON AV., N.Y. 10022.



Sun. Feb.7, 1982

Flew Aeromexico 513 from Villahermosa to Merida.

[Back to table of contents](#)

Last updated 7/30/99.

Christopher E. Brennan

TRAVELS NOW AND THEN

© Christopher Earls Brennan

SEQUOIA 1982

Camping trip to Kings Canyon National Park with Patrick, 1982



Kings Canyon National Park



Kings Canyon National Park



Kings Canyon National Park



Kings Canyon National Park



Kings Canyon National Park



Kings Canyon National Park

Sun. Mar.23

Fly to ???

[Back to table of contents](#)

Last updated 7/30/99.

Christopher E. Brennen

TRAVELS NOW AND THEN

© Christopher Earls Brennen

NORWAY 1982

Sat/Sun. Aug.21/22, 1982

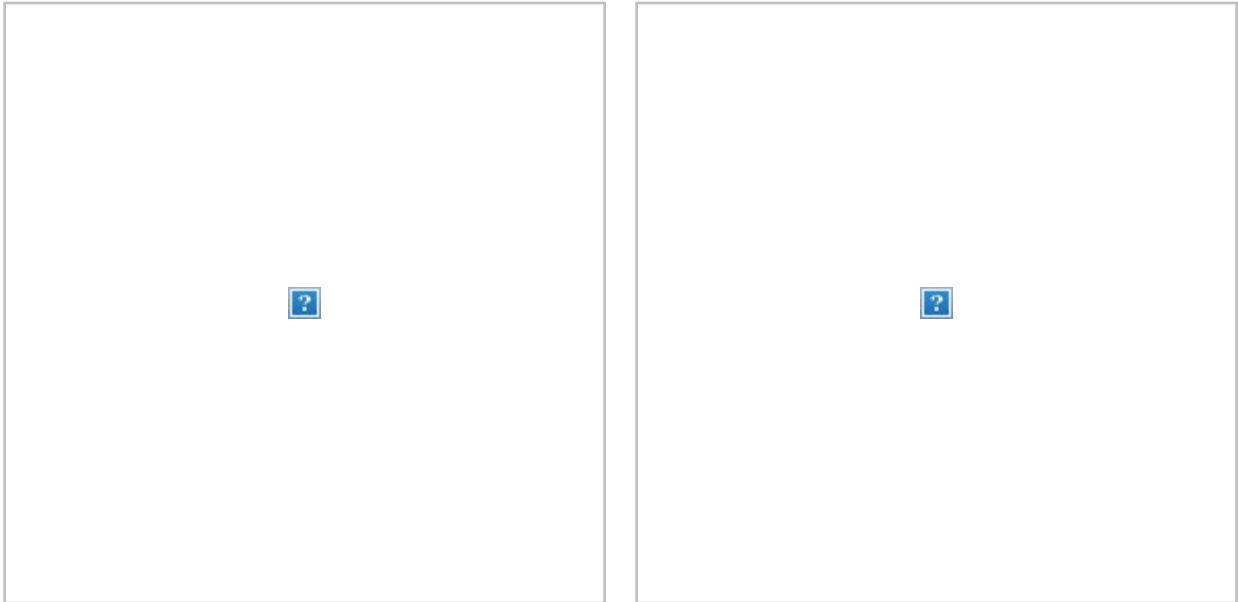
Fly TWA 760 from LAX to LHR
Fly BA 644 from LHR to Oslo
Fly SK 348 from Oslo to Trondheim

Question: Is this the same talk as given at the Second U.S.-Japan Seminar on new models and constitutive relations in mechanics of granular materials in Ithaca, New york, Aug. 23-27, 1982?
[Campbell, C.S. and Brennen, C.E. (1983). Computer simulation of shear flows of granular materials. Proc. Second U.S.-Japan Seminar on new models and constitutive relations in mechanics of granular materials, Elsevier Publ. Co., 313-326.]

Note flight LAX-ITH on 8/22/82!!!

Wed. Aug.25, 1982

Fly SK 349 from Trondheim to Oslo
Fly Northwest from Oslo to JFK
Fly TWA 760 from JFK to LAX



???

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*Last updated 7/30/99.
Christopher E. Brennen*

TRAVELS NOW AND THEN

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NETHERLANDS 1982

Aug.27, 1982, to Sep.10, 1982

Delft, Netherlands, & N. Ireland
Scientific conference & Vacation



research division

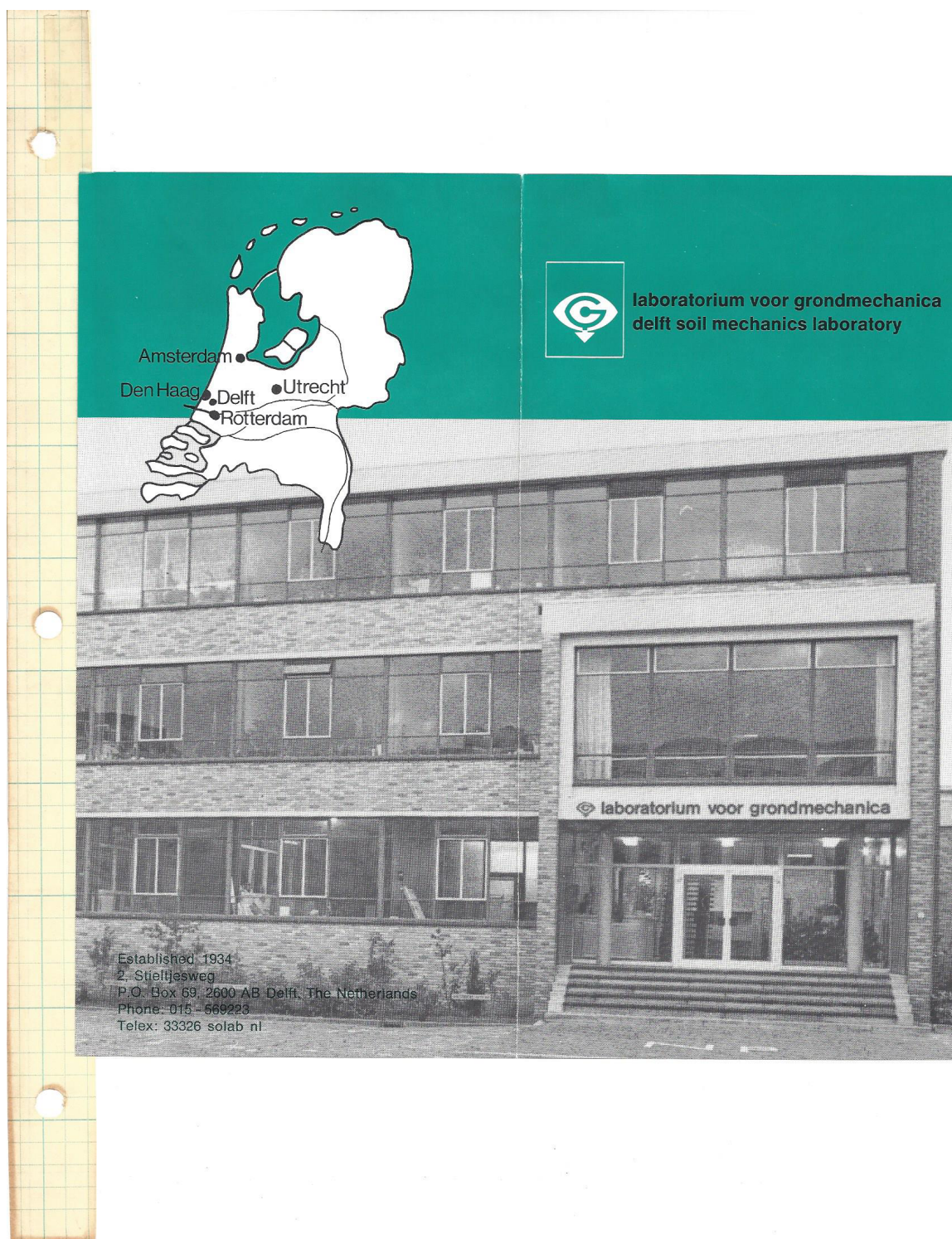


Developments in soil mechanics are based on research

A large number of facilities is available for small and large scale research projects. The development of apparatus and instrumentation is an important aspect of DSML's research work. Besides research to improve quality and to support and broaden consulting activities, also commissioned research projects are carried out for government bodies and private industry. These are related on the one hand with the evaluation of new foundation techniques, such as new pile types, and on the other hand with the development of practical and fundamental knowledge of and insight into behaviour of soil when subjected to stress or strain. Examples of the latter are: dredging techniques, ground and porewater pressures, response to pile driving and other dynamic loads and the influence of cyclic loading on the behaviour of the foundation subsoil.



delft
soil mechanics
laboratory



IUTAM Symp. on deformation and failure of granular materials, Delft, The Netherlands, Sept. 1982.

Campbell, C.S. and Brennen, C.E. (1982). Computer simulation of chute flows of granular materials. In Deformation and Failure of Granular Materials, ed. Vermeer, P. A. and Luger, H. J., A. A. Balkema Publ. Co., Rotterdam, 515-522.

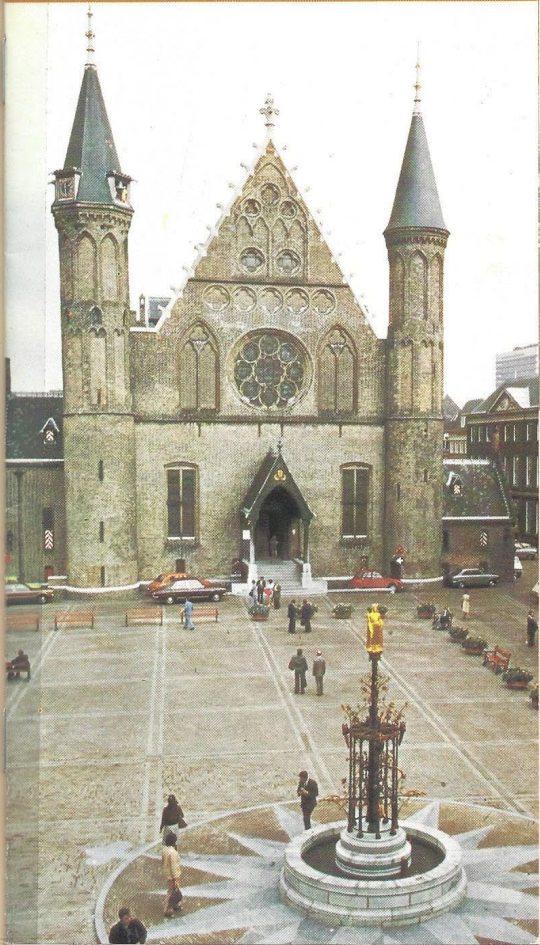
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The Hague Binnenhof



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RETOUR

AMSTERDAM CS

Dated 29/08/82

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050151 Ned. Spec. Druk., Delft

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Ongeldig zonder controlestrook

CONTROLE Prijs volgens loket 050151

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AND ITS
ROYAL MAUSOLEUMS
AND OF THE MEMORIAL OF
HUGO GROTIIUS
IN DELFT



Nº 109

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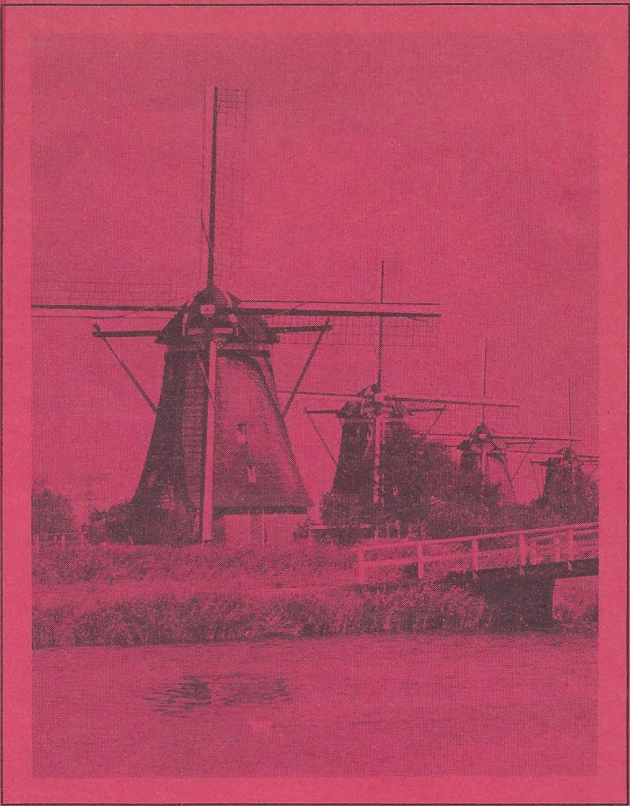
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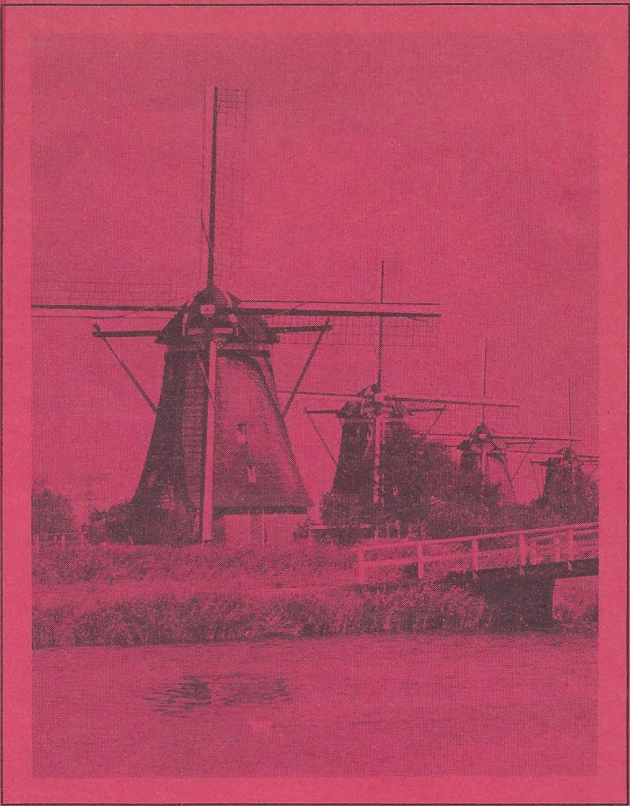
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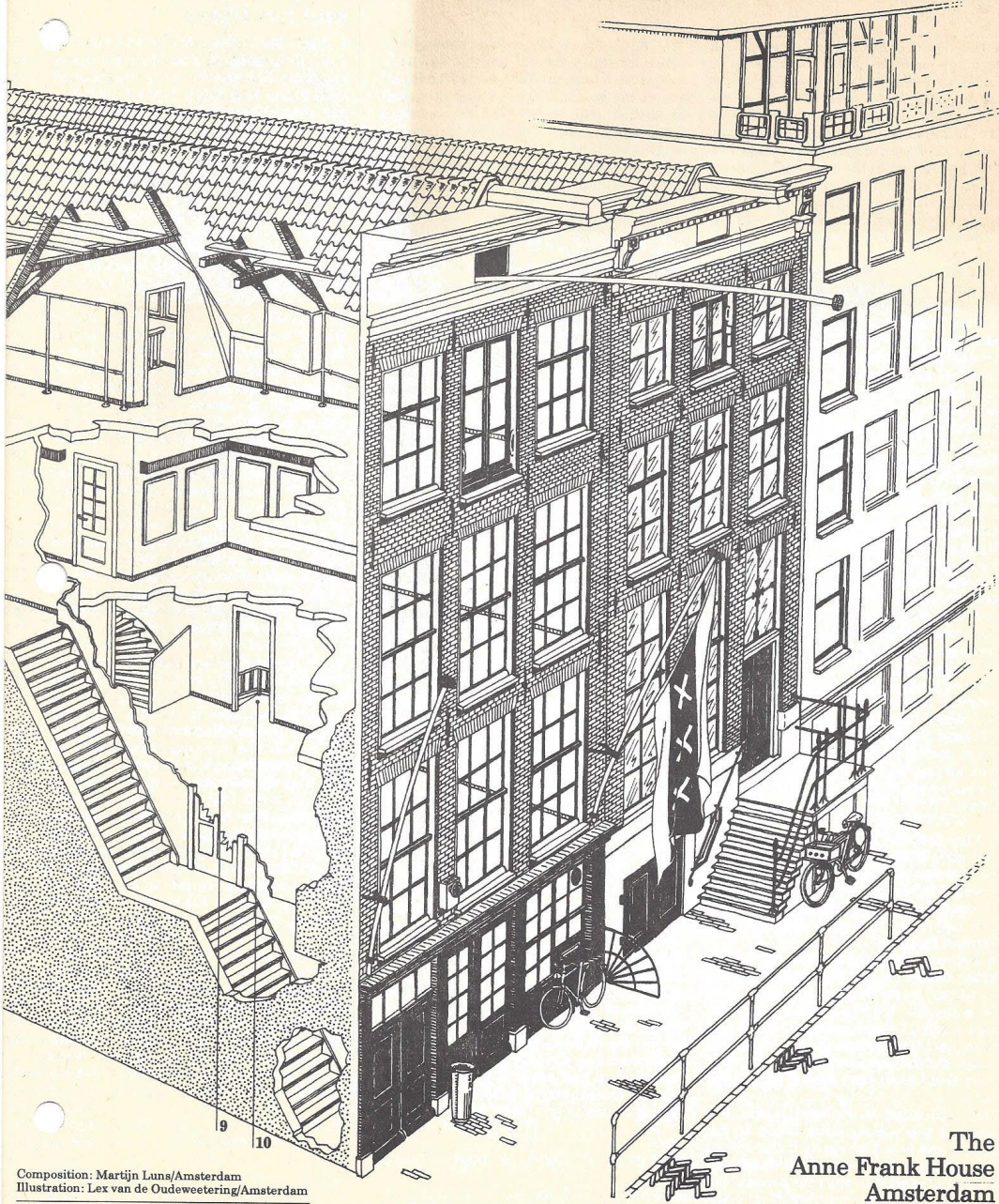


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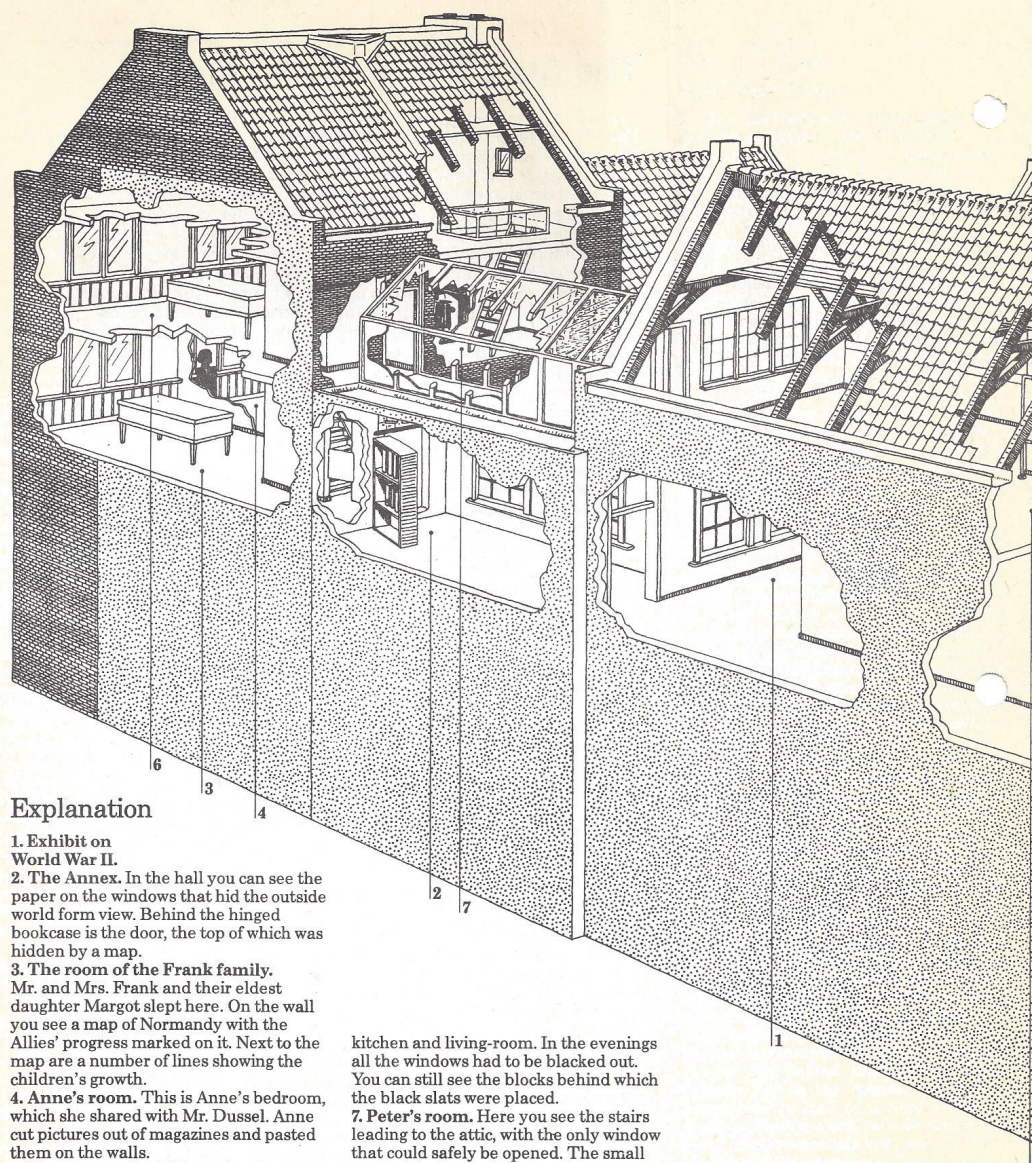


English



Composition: Martijn Luns/Amsterdam
Illustration: Lex van de Oudeweetering/Amsterdam

The
Anne Frank House
Amsterdam



Explanation

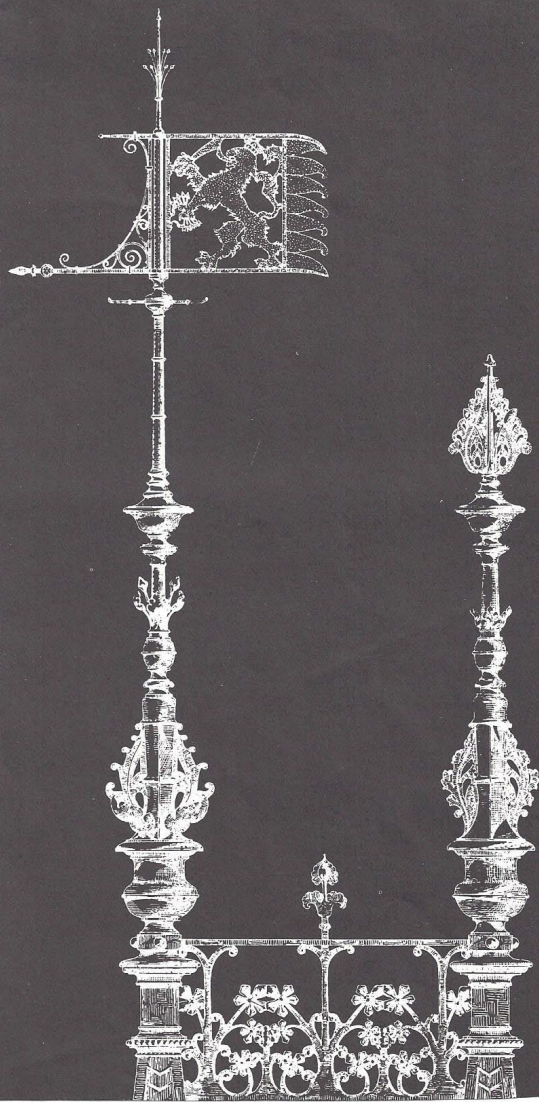
- 1. Exhibit on World War II.
- 2. The Annex. In the hall you can see the paper on the windows that hid the outside world from view. Behind the hinged bookcase is the door, the top of which was hidden by a map.
- 3. The room of the Frank family. Mr. and Mrs. Frank and their eldest daughter Margot slept here. On the wall you see a map of Normandy with the Allies' progress marked on it. Next to the map are a number of lines showing the children's growth.
- 4. Anne's room. This is Anne's bedroom, which she shared with Mr. Dussel. Anne cut pictures out of magazines and pasted them on the walls.
- 5. Washroom. (invisible on drawing). The toilet and the washroom could only be used outside office hours. Otherwise the noises would filter through to the people working downstairs, incurring the risk of discovery and betrayal.
- 6. The room of the Van Daan family. A steep stairway leads from the washroom to the room of Mr. and Mrs. Van Daan, which also served as the hideaways' kitchen and living-room. In the evenings all the windows had to be blacked out. You can still see the blocks behind which the black slats were placed.
- 7. Peter's room. Here you see the stairs leading to the attic, with the only window that could safely be opened. The small stock of food was also stored here.
- 8. Exhibit on Anne and the Diary. Through a corridor put in after the war you come to the exhibit 'Anne and the Diary'. Some of the information given here is also included in the chapter on the reverse side of this folder.
- 9. Information counter. On the other side of the room you will find panels on current events, giving examples of prejudice, discrimination and repression as they still occur in the world today.
- 10. Exhibition room and exit. Annually changing exhibits are held here on subjects related to the goals of the Anne Frank Foundation.

S			V		
Saenredam, Pieter	211A	G	Van de Velde		
Sales Department	☐	G	—Esaïas	211A	G
Sampling Officials of Drapers'			—Willem I	102, 103	B
Guild, Rembrandt	221	G	—Willem II	214, 217, 219	G
Schelfhout, Andreas	144, 145	D	Verhulst, Rombout	258	H
School of			Vermeer, Johannes	226	G
Amsterdam	149	D	Verspronck, Johannes	214A	G
Hague	146-148	D	Vianen, van	254	H
—Rembrandt	222A, 222	G	W		
Scorel, Jan van	204, 205	G	Watches	180	E
Sculpture	163	E	Waterloo, Battle of	110	B
—id.	238-248, 258	H	W.C.	☐	
Seghers, Hercules	220	G	Weapons	102	B
Sèvres	179	E	Weissenbruch, H. J.	145, 148	D
Ship Models	102	B	Wezel, Adriaen van	241, 242	H
Silver			Wouwerman, Philips	219	G
—Dutch, 16th. C.	251A	H			
—id., 17th. C.	253, 254, 258	H			
—id., 18th. C.	177	E			
—id., 18th. C.	29	F			
—French	177, 180	E			
—id.	29	F			
—German	162	E			
—id.	251A	H			
Smoking Room	☐ 134	E			
Spanish Painting	233	G			
Staalmeesters	221	G			
Stamps	☐				
Steen, Jan	216-218	G			
Study Collection	40-47	C			
Syndics, Rembrandt	221	G			
T					
Telephone	☐				
Terborch, Gerard	227	G			
The Hague School	146-148	D			
Tiepolo	236	G			
Tiles	40	C			
Timepiece	101	B			
Tintoretto	231	G			
Troost, Cornelis	☐ 136, 137, 139	D			
Puppenhäuser	162, 175	E	Steen, Jan	216-218	G
Quellinus, Artus	258	H	Straatje, Vermeer	226	G
R			Studiensammlung	40-47	C
Rauchzimmer	☐ 134	E	T		
Rembrandt	220-221A, 224	G	Telefon	☐	
Rembrandtschule	222A, 222	G	Terborch, Gerard	227	G
Reproduktionsverkauf	☐	G	Tiepolo	236	G
Restaurant	☐	E	Tintoretto	231	G
Royal Charles	103	B	Toiletten	☐	
Rubens, P. P.	235	G	Tromp, Sammlung	104	B
Ruisdael, Jacob van	214	G	Troost, Cornelis	136, 137, 139	D
Ruysdael, Salomon van	214A	G	U		
S			Uhren	180	E
Saenredam, Pieter	211A	G	V		
Schatzkammer, 16-17. Jht.	251A	H	Velde, Van de		
—id., 18. Jht.	180	E	—Esaïas	211A	G
Schelfhout, Andreas	144, 145	D	—Willem I	102, 103	B
Schiffmodelle	102	B	—Willem II	214, 217, 219	G
Schlacht bei Waterloo	110	B	Verhulst, Rombout	258	H
Schmuck	162, 180	E	Verkaufabteilung	☐	G
—id.	251A	H	Vermeer, Johannes	226	G
Schule			Verspronck, Johannes	214A	G
—Amsterdamer	149	D	Vianen, van	254	H
—Haager	146, 148	D	W		
—Rembrandt	222A, 222	G	Waffen	102	B
—al, Jan van	204, 205	G	Waterloo, Schlacht bei	110	B
Seghers, Hercules	220	G	W.C.	☐	
Sèvres	179	E	Weissenbruch, H. J.	145, 148	D
Silber			Wezel, Adriaen van	241, 242	H
—deutsches	162	E	Wouwerman, Philips	219	G
—id.	251A	H			
—französisches	177, 180	E			
—id.	29	F			
—holländisches, 16. Jht.	251A	H			
—id. 17. Jht.	253, 254, 258	H			

Rijksmuseum
Amsterdam

Plan &
Directory

Plan & Verzeichnis



Flew Amsterdam to Belfast.



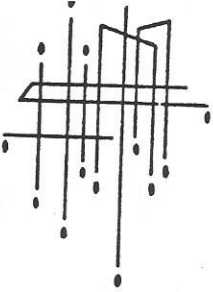
Near Newcastle, County Down



Flew Belfast to Heathrow to LAX.

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*Last updated 7/30/99.
Christopher E. Brennen*



THE CALTECH PLAYREADERS

present

THE HOTHOUSE

by Harold Pinter

Directed by Christopher Brennen

Introduced by Naomi Greenstein

The Cast

Roote Chris Brennen
Gibbs John Davidson
Lamb Brian Beckman
Miss Cutts Lynne McGrath
Lush Marty Ewing
Tubb Don Trask
Lobb Noel Corngold

Thursday, December 2, 1982

8:15 p.m.

The Athenaeum Library

As usual, members of the cast and audience can arrange to have dinner together before the performance. Please call the Athenaeum and ask to be seated with the Playreaders.

For other information please call - -

Chairman
Anne Vaughan
355-4445

Casting
Greta Davidson
791-4043

Mailing
Mary Niell
794-6045

The play in February will be Tennessee Williams
Summer and Smoke. Have a happy holiday season!

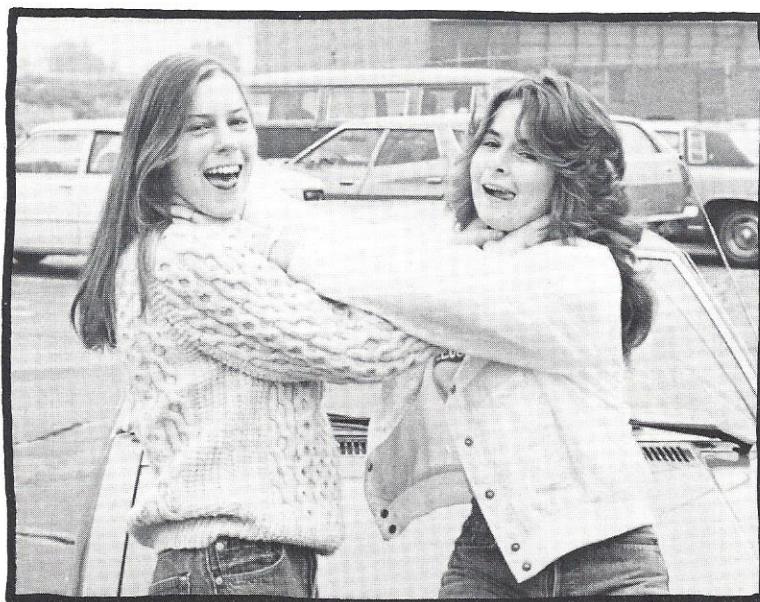
THE CALTECH PLAYREADERS .

CAMPUS 1982



The
inter-
national
honorary
society

Quiz
Scroll



Katie Simon
Dana Brennen
Editors in Chief



Thelma Reyna
Ann Drury
Advisors



Whitney Haggins, Kathleen Ruhleder,
Lori Brandly, Carolyn Rhodes,
Laura Petaez.





Freshmen

The Freshmen Class, led by president Craig Stewart, showed a great deal of spirit, unity and maturity throughout the year. Along with placing an impressive second place in the annual Spirit Week, the freshmen raised money with activities such as candy and magazine sales. Furthermore, the class arranged a jog-a-thon in hopes of getting participation from other students. Stewart attributes much of their success to "the cooperation and wonderful help given" by fellow officers; vice-president Anne Blackshaw, treasurer Hans Gaus and secretary Joey Mercado (all pictured at left).



Karen Afsharian
Ligia Aguilar
Luz Aguilar
Richard Aguirre
Elizabeth Albano
Lynley Allen
Michael Allen
Sharon Alper
Robert Anderson
Guadalupe Andrade



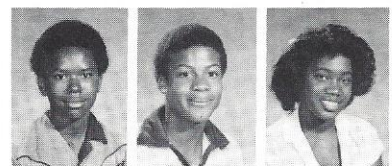
Henaz Apardian
Dwayne Armstrong
Cynthia Atkinson
Julie Aulp
Monique Autrey
Susan Ayers
Maria Bacallo
Derek Bailey
Ezekiel Bailey
Willie Bailey



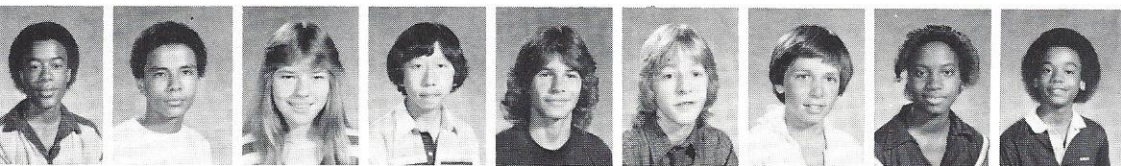
Sheronda Bailey
Cleo Bates
Paul Beach
Priscilla Bell
Holly Benson
Paul Bertsche
Maurice Bienvenue
Stephanie Biles
Rita Bishop
Crystal Bizzle



Anne Blackshaw
Angelique Blancas
Talver Booth
Jackie Boyd
Kathie Brennen
Fred Brockett
Jimmy Brokl
Jeff Broughton
James Brown
Judy Brown

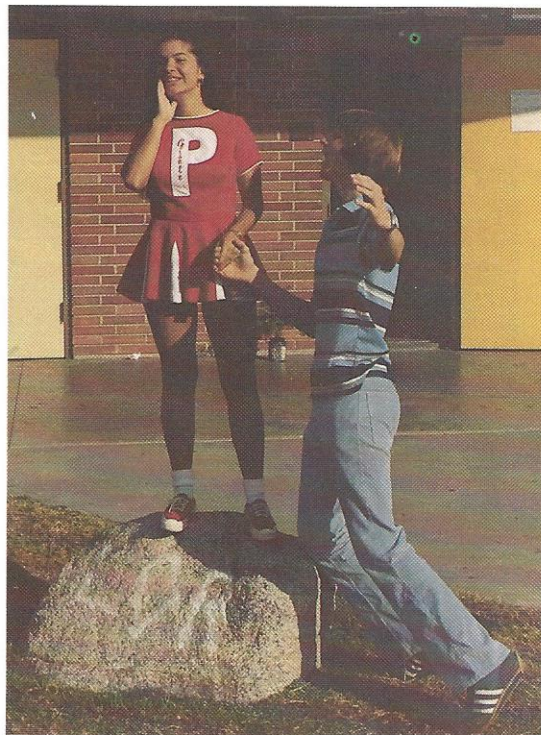


Gayle Bruno
Jeryl Busby
Maria Cacciotti
Gloria Calderon
Susanne Caltacci
Veronica Camarillo
Tom Campas
Nora Canada
Odilon Carrillo
David Carter



Todd Carter
Hector Ceballos
Dawn Cepak
Wai-Hao Chen
Dennis Chick
Steve Cieslak
James Cimino
Jewel Clay
Damon Collins
Herman Collins







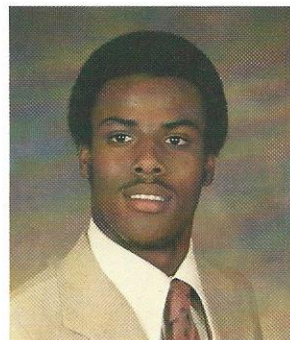
Kathryn Bouse



Craig Brannon



Danamich lle Brennen



Michael Brittenum



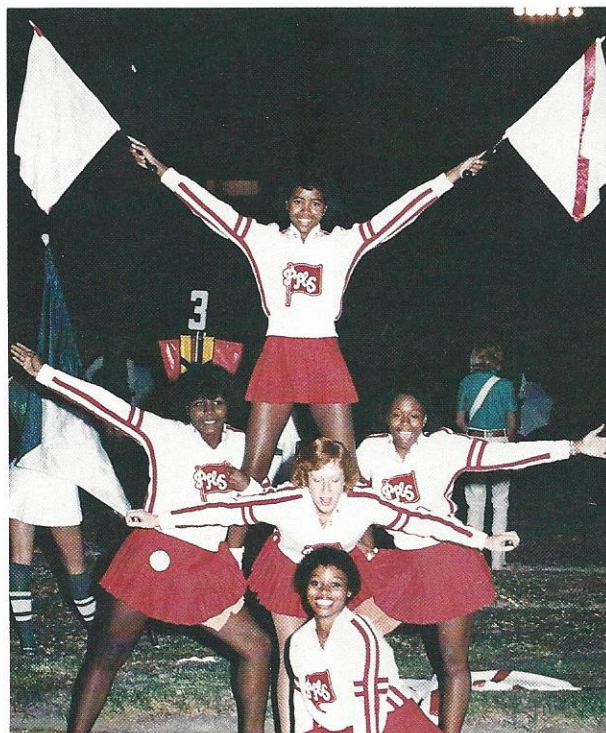
Tai Karolyn Britton



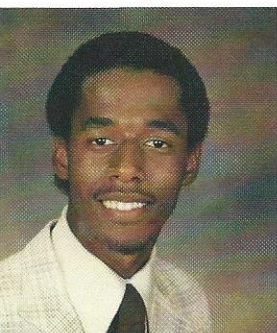
Diana Brokl



Cydney Brooks



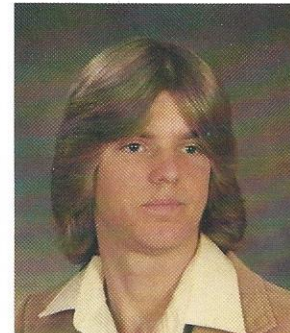
Gloria Brown



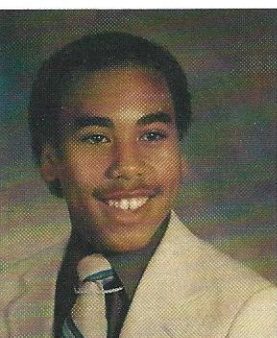
Paskel Brown



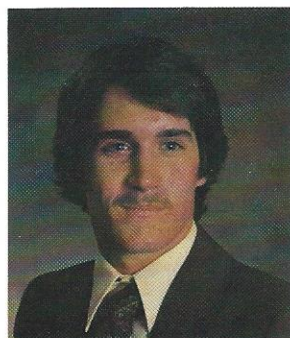
Bridgette Bruce



James Buchan



Drake Buchanan



Michael Bugh



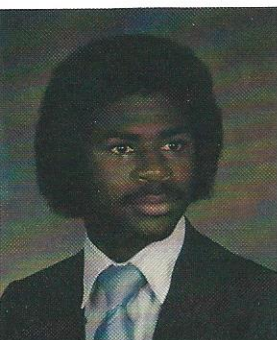
Lydia Burgos



Barbara Cali



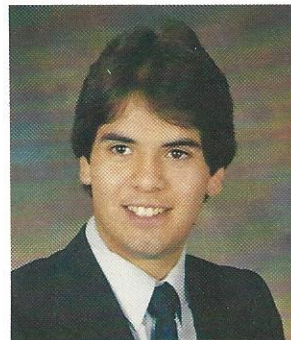
Carlos Campas



Ronnie Campbell



Vanessa Campbell



Joseph Cano



LaDrena Carter



Karin Casser

Caltech

California Institute of Technology • Pasadena, California 91125 (213) 356-6256

news bureau

July 1, 1982

For further information
contact:

Winifred Veronda
356-4692

FOR IMMEDIATE RELEASE

CALTECH STUDENTS HONOR OUTSTANDING TEACHERS

Seven outstanding faculty members have been named recipients of awards for teaching excellence by ASCIT (The Associated Students of the California Institute of Technology). The awards were made on the basis of student evaluations of the instructors' clarity, enthusiasm, command of the subject, rapport with the class, and interest in the students as individuals.

The faculty members are: Dr. Chris E. Brennen, professor of mechanical engineering, of Sierra Madre, for his course in fluid mechanics; Dr. Richard P. Feynman, the Richard Chace Tolman Professor of Theoretical Physics, of Altadena, for his relativity course. Dr. David L. Goodstein, professor of physics and applied physics, of Pasadena, for Physics 1; Dr. Robert D. Middlebrook, professor of electrical engineering, of Pasadena, for an electronic circuit design class; Dr. Ray D. Owen, professor of biology, of Pasadena, for his course in genetics; Dr. David Sundelson, Mellon Postdoctoral Instructor in Literature, of San Marino, for his course in the Self in Literature and his Shakespeare class; and Dr. Robert R. Wark, lecturer in art, of Pasadena, for his class in British Art of the Georgian Period.

Students honor seven on faculty for superb teaching

Seven Caltech faculty members have been named recipients of awards for teaching excellence by ASCIT. They are Chris E. Brennen (professor of mechanical engineering) for his course in fluid mechanics, Richard P. Feynman (the Richard Chace Tolman Professor of Theoretical Physics) for his class in relativity, David L. Goodstein (professor of physics and applied physics) for Physics 1, Robert D. Middlebrook (professor of electrical engineering) for his course in electrical circuitry design, Ray D. Owen (professor of biology) for his genetics course, David Sundelson, (Mellon Postdoctoral Instructor in Literature) for his course in literature and Shakespeare, and Robert R. Wark, (lecturer in art) for his art classes.

The selections were made by the educational policies committee of ASCIT on the basis of student ratings of courses taught during the 1981-82 academic year. The results are published in a booklet, the Teaching Quality Feedback Report, that contains statistics and comments on questionnaires evaluating the instructors' clarity, enthusiasm, command of the subject, rapport with the class, and interest in students as individuals.

French Agree

Continued from Page 6

alcohol here. They must be afraid of drunk drivers."

Zaky: "Boys and girls in France can buy alcohol and tobacco when they are 16."

Francois: "We were allowed to drink wine when we were children, but we only drink water now. There are many alcoholics in France. Fifty percent of the young people in France smoke. We don't smoke either. Wine is not in fashion in France. They drink beer or Coke."

Francois whose roots are Lebanese says he is not a practicing Catholic. Joel is Sicilian and a Catholic; Zaky who has an American father, is an agnostic although he was brought up a Catholic.

All three are looking toward their professional careers and several more years of training. Francois will go to business school; Joel will become an engineer and Zaky, an

attorney, judge.

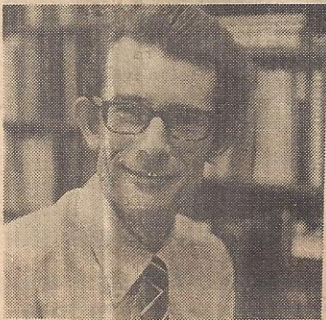
"People are very nice, friendly and kind. It's not like this in Europe. People here are more open," Francois concludes. Joel agrees, "Yes, exactly."

Anyone getting to know them would agree with Sandra Buchan when she says, "They are very charming."

Sierra Madreans who have extended their hands in welcoming, says Jane, include Ashleigh and Mary Buchan, Charlie and Margie Peterson, Tom and Arlene Wynne, Edna and Babette Coscarelli, and Howard and Tommy Ann Miller.

The Buchans also had two additional students who were traveling independently for five days and they were Patrick Raveau from Le Bourget and Philippe Lardy from Clinchy S/Bois.

Receives Award



Dr. Chris E. Brennan

Dr. Chris E. Brennan of Sierra Madre, professor of mechanical engineering at Caltech, was one of seven outstanding faculty members to be named recipient of an award for teaching excellence.

The awards, given by ASCIT (The Associated Students of the California Institute of Technology) were made on the basis of student evaluations.

Dealing with Harrassment

"If you are being harrassed via the phone, don't be antagonistic. Say nothing and hang up the phone. Don't give the other person a chance to remember you," suggested Les Ledbetter from General Telephone Co. at the monthly meeting of the Sierra Madre Crime Board meeting Thursday, June 17.

The person who is using the phone for harrassment is searching for a voice, Ledbetter added.

If the caller persists, there is a general procedure to follow, and according to Ledbetter, it includes the following points: (1) Make a report to the police concerning the type of call. (2) Approach the telephone company and explain the problem. Request a trap be placed on the line.

Ledbetter said that if the Sierra Madre branch could not trace the call out-of-town, at least they could find the direction of the call. "Even if they are unable to trace the call, they may be able to ascertain whether the victim is receiving a call from known suspects in the area."

If the trap works and the caller is on the phone, the victim is urged to lay down the phone and go to another phone, calling the police switchboard and requesting they start the trace. Ledbetter explained that the victim should not hang up his phone and therefore assure that the caller will not be disconnected so the trace goes on whether or not the suspect hangs up his or her phone.

"With electronic switches, the success rate is good. Sierra Madre's equipment is electro-magnetic and therefore handles only a limited number of phone calls," Ledbetter told the group.

Members of the board asked for ways the community could be helped, such as being aware of several phone calls that are wrong numbers.

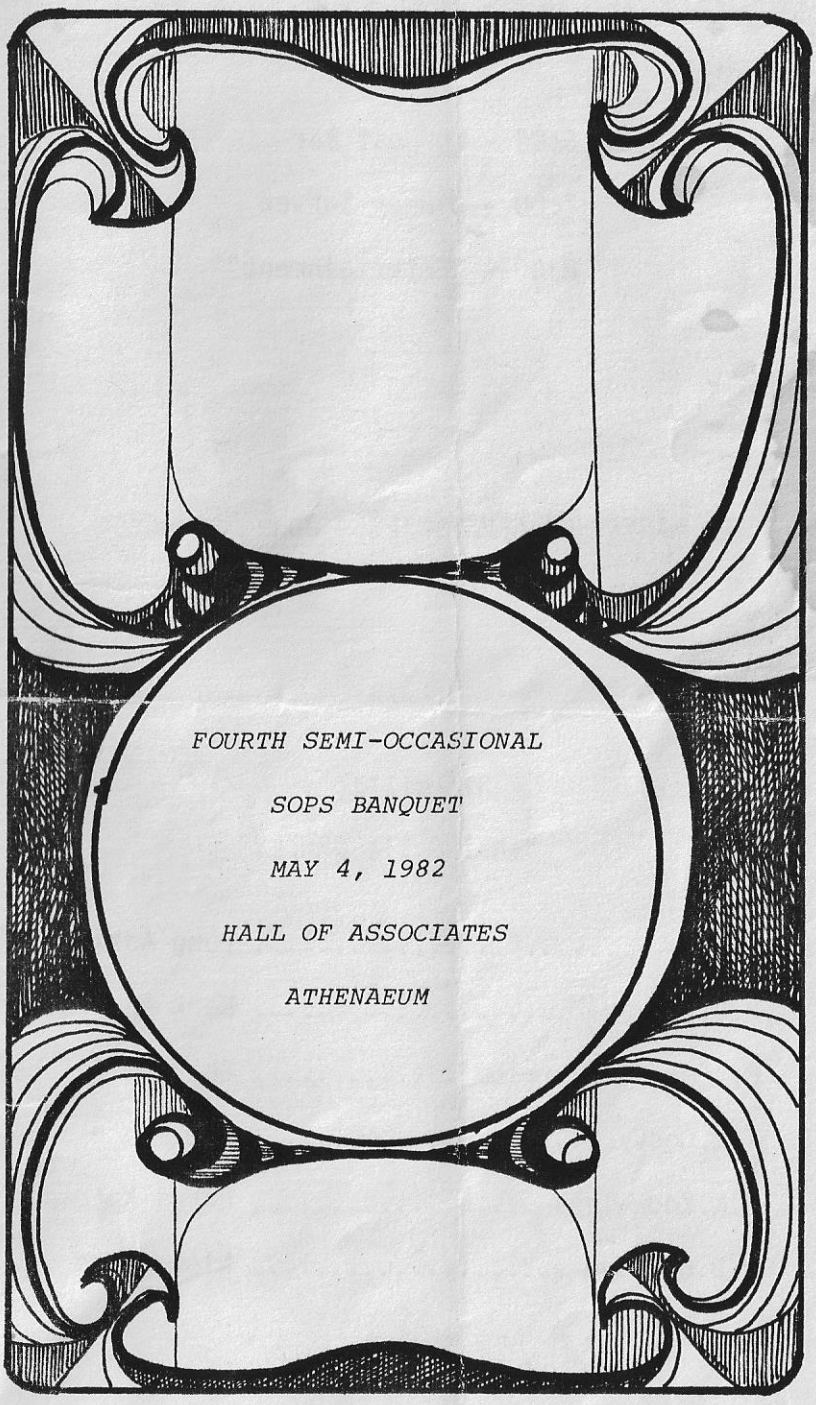
Newly-elected Chairman Elaine Rudolph asked if there were a way of protecting a homeowner in such cases. A recording machine is not the answer, Ledbetter stated. He also squashed Robert Vander Zaag's suggestion of leaving the phone off the hook since, he says, "Leaving the phone off the hook ties up several lines."

"The more sophisticated the equipment, the more sophisticated the culprit (the person who abuses the phone)," Ledbetter said and showed three devices used to defraud the phone company.

One resembles a lunchbox but contains the "insides" of a phone booth and mimics the sounds of coins dropping in the slot. The noise coming from this device and another one shown fools the operator into thinking the caller is paying the phone instead of the device.

Another device allows a caller to place long distance calls to any location free.

Tee For 4 or More



FOURTH SEMI-OCCASIONAL

SOPS BANQUET

MAY 4, 1982

HALL OF ASSOCIATES

ATHENAEUM

6:00 - No-Host Bar

7:00 - Dinner Served

8:00 - "Entertainment"

MASTER OF CEREMONIES - John Stevenson

Albert Lin's

"TAKING IT; ORALLY"

T.C.	Doug Adkins
P.C.Tenkay	Mark Anderson
C. "Paddy" Burn'em	Charlie Campbell
T.K.Cocky	Tom Pence
J.K.Know-less	Harri Kytomaa
W.D.One-eye	Nick Jones

FACULTY'S CHANCE

Chris Brennen

Jim Knowles

Ron Scott

Noel Corngold

Paul Jennings

Sue Berkley

STAFF'S CHANCE

Sue Berkley

Rennie Dudek

Ken Graham

Nancy Hosey

Sharon Beckenbach

Closing Remarks

CALIFORNIA INSTITUTE OF TECHNOLOGY

PASADENA, CALIFORNIA 91125

R. STANTON AVERY
CHAIRMAN OF THE BOARD OF TRUSTEES
150 NORTH ORANGE GROVE BOULEVARD
PASADENA, CALIFORNIA 91103

June 11, 1982

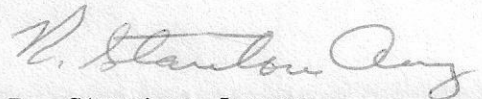
Dr. Christopher E. Brennen
Division of Engineering
and Applied Science
California Institute of Technology
Pasadena, California 91125

Dear Dr. Brennen:

The Board of Trustees was particularly pleased to learn that you are a recipient of the ASCIT Award for Excellence in Teaching for the 1980-81 academic year.

The Board wishes you to know of its appreciation of your efforts which have resulted in this high recognition.

Sincerely,



R. Stanton Avery

cc: M. L. Goldberger
R. W. Gould
J. D. Roberts

Drop 'em
today

The California Tech

Punt 'em
tomorrow

Volume LXXXIV

Pasadena, California

Friday, 3 December 1982

Number 11



Sing Noël!

The big event of the Christmas season will be happening this weekend in Beckman Auditorium. It is the completely new presentation of the music and message of Christmas, titled "Sing Noel." There will be three performances, matinees on Saturday and Sunday at 4:00 pm, and an evening performance on Saturday. Ticket prices are: General Admission—\$6.50, Faculty and Staff—\$5.50, and Students—\$4.50. The Sunday performance is sold

and well-known carols. "Sing Noel" will be the debut of the Caltech Chamber Singers. This is a small, mixed group which will perform Christmas music of the Renaissance in period costumes.

A series of dramatic vignettes will highlight the varied aspects of Christmas. Scrooge, Saint Francis of Assisi, and the girls of Little Women will all be brought to life. They will feature such Caltech notables as Huston Horn, Director of the Caltech Y,

Establishment. The Combine
sends society's nonconformists
to the asylum, and Big Nurse

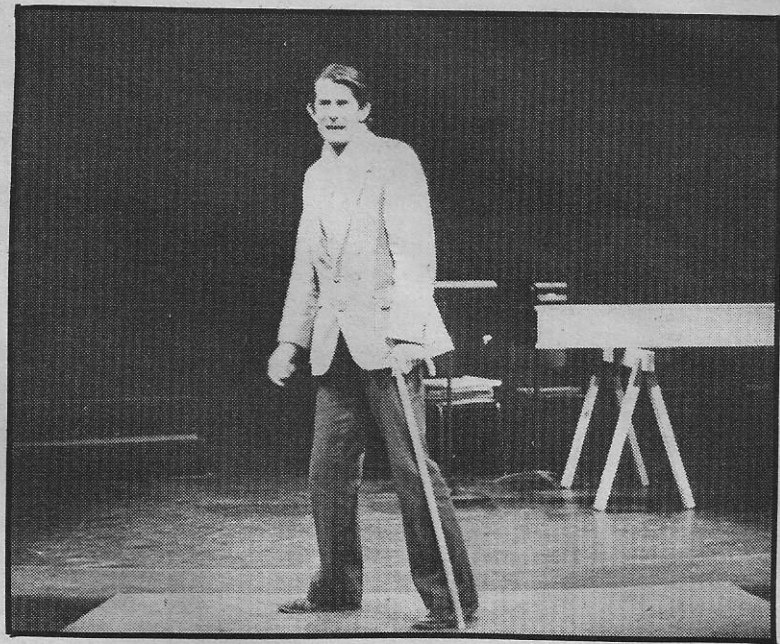
Cuckoo's Nest shows December
3 at 7:30 and 10 p.m. in Baxter
Lecture Hall.

—Priscilla Baird

Mad

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Chris Brennen presents a Welsh Christmas
in *Sing Noël!*

photo by Ron Gidseg



SING NOËL

Participating in the Program are

THE CALTECH GLEE CLUBS CHAMBER SINGERS CHAMBER ORCHESTRA

DONALD CALDWELL
Conductor

MONICA BOWN
Assistant Conductor

CALTECH WIND ENSEMBLE BRASS SECTION

WILLIAM BING
Director

Saturday, December 4, 1982
Sunday, December 5, 1982

4:00 p.m. and 8:00 p.m.
4:00 p.m.

Beckman Auditorium
Beckman Auditorium

PROGRAM

PROLOGUE

Hodie Christus natus est

Chant

ENTRADA

Sonata pian' e forte
Hodie Christus natus est

Giovanni Gabrieli
Jan Sweelink

FESTIVAL

Nowell sing we

Wendy Caldwell, Peter Felker, *soloists*

Medieval Carol

Coventry Carol
Riu Riu Chiu

Traditional
Anonymous 16th C.

Jacqueline Fernandez, *soloist*

INTERLUDE

Concerto Grosso, Op. 6 No. 8—"Christmas Concerto"
Mary Ann Walck, Michael Casassa, Steve Strand, *soloists*

Arcangelo Corelli

CELEBRATION

Magnificat anima mea
Where is the new-born King?
There were shepherds abiding in the fields
Ruth Ridenour, *soloist*

Johann Sebastian Bach
Heinrich Schütz
George Frederick Handel

Glory to God
For unto us a Child is born

George Frederick Handel
George Frederick Handel

Intermission

Behold a Child shall be born

Mary E. Caldwell

THE FIRST CAROL

Huston Horn

Touro-louro-louro
Swedish Carol
The Lute Carol

arr. by Robert Shaw-Alice Parker
arr. by K.K. Davis
Mary E. Caldwell

A WELSH CHRISTMAS

Chris Brennen

Wolcum yole
There is no rose

Benjamin Britten
Benjamin Britten

CHRISTMAS, AMERICA, 1863

Kimberly Carr, Candice McCoy

Noemi de la Puente, Wendy Caldwell

Now a lovely Child is born
I wonder as I wander

arr. by Mary E. Caldwell
Appalachian Carol

Neil Phillips, *soloist*

God rest you merry, gentlemen

arr. the Krones

IS IT REALLY CHRISTMAS?

Richard Dean

Nativity Carol
Angels from the Realms of Glory
The Noel Carol

John Rutter
arr. by David Willcocks
arr. by Mary E. Caldwell
Orchestration by G. Collerd

CHRISTMAS HALLEIN, AUSTRIA, 1854

Rhonda Miller

Patrice Wyndham, Elinore Miller, Dean Elzinga

Finale—Silent Night, from *A Gift of Song**

Mary E. Caldwell

The audience is invited to participate in singing

Silent night, Holy night,
All is calm, all is bright;
Round yon Virgin Mother and Child!
Holy Infant so tender and mild,
Sleep in heavenly peace, sleep in heavenly peace.

Silent night, Holy night,
Son of God, love's pure light.
Radiant beams from Thy holy face,
With the dawn of redeeming grace,
Jesus, Lord at Thy birth, Jesus, Lord at Thy birth.

**By permission of Boosey and Hawkes and the composer.*

CALTECH MEN'S GLEE CLUB

Tenor

Jerry Burch
Frank Dionisio
K. Jeffrey Ericksen
Rob Fätland
Peter Felker
Erik Fernandez
Donald Fossgreen
Concetto Geremia

James Hafner
Philip Hookham
Jung Choon Im
Howell Johnson
Robert Kelly
Michael Pettersen
Neil Phillips
Frederick Wieland

Bass

Amaury Arce
John Behr
Paul Berglund
Ross Berteig
Francis Celii
Michael Chwe
Miles Collins
Drew Cushman
Brian Davison
Kurt Eakle
Dean Elzinga
Harold Felton

Chuen Goh
Peter Jones
Daniel Kegel
Ray Lischner
Carl Murray
Steven Nixon
Michael Oliver
Douglas Reinelt
Donald Silvert
Martin Sirkin
Ichiro Sugioka
Min Su Yun

CALTECH WOMEN'S GLEE CLUB

Soprano

Ellen Bus
Shevaun Duiker
Catherine Ifune
Atsuko Kirshvink
Cheryl Klipp
Jeanne Mueller

Karla Peterson
Ruth Ridenour
Anita Ruth
Pat Scott
Beverly Sher
Karen White
Laura Wilson

Alto

Gladys Engen
Kathleen Eriksen
Jacqueline Fernandez
Lisa Hamilton
Catherine Hayes
Michelle Miller

Lisa Payne
Jeanne Reinelt
Erica Sargent
Marianne Veight
Miriam Zucker

CALTECH CHAMBER SINGERS

Ellen Bus
Wendy Caldwell
Jacqueline Fernandez
Catherine Ifune
Jeanne Mueller
Ruth Ridenour
Anita Ruth

John Behr
Jerry Burch
Drew Cushman
Dean Elzinga
Peter Felker
Neil Phillips

CHAMBER ORCHESTRA

Violin
Marianne Walck
Michael Casassa
Michael Kong
Rhonni Hallman
Genette Foster
Leslie Woodbury

Viola
Barbara Thomason
David Brown

Cello
Delores Bing
Steve Strand

Bass
Margaret Storer

Harp
Heather Graham

Flute
Tom Skelton
Ann Stanley

Oboe
John Winter
Lisa Iottina

Bassoon
Carol McCullum

French Horn
Susan Kincaide
Sean Eldridge

Trumpet
William Bing
John Brugman
Randy Tivens

Tympani
Steve Thomas

Harpsichord
Vincent Powers

CALTECH WIND ENSEMBLE BRASS SECTION

Trumpet
Allan van Asselt I
John Brugman I
Chung Chan I
Albert Coleman I
Duane Marsteller I
Carl Schulteis I
Randy Tivens I
Nancy Wischhusen I

French Horn
Jean Eldridge I
Sidney Heyman II

Trombone
Mike Corder II
Mark H. McAdon I
George Pitt II

Baritone
Chuen Goh II
Paul Kienker II
R.J. Snook II

Tuba
Mark Cohen II
Paul Varger I

Banners courtesy Pat Lammerts

Academic Procession

Chief Marshal, Christopher E. Brennen, Ph.D.

Assistant Marshals

Arden L. Albee, Ph.D. Jenijoy La Belle, Ph.D.
J. Kent Clark, Ph.D. Robert W. Oliver, Ph.D.
Ray D. Owen, Ph.D., Sc.D.

Faculty Officers

Fred C. Anson, Ph.D. Donald S. Cohen, Ph.D.
David C. Elliot, Ph.D.

MARCHING ORDER

CANDIDATES FOR THE DEGREE OF BACHELOR OF SCIENCE

CANDIDATES FOR THE DEGREE OF MASTER OF SCIENCE

CANDIDATES FOR THE DEGREE OF ENGINEER

CANDIDATES FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

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THE CHAIRMEN OF DIVISIONS

THE DEANS

THE PROVOST

THE TRUSTEES

THE COMMENCEMENT CHAPLAIN

THE COMMENCEMENT SPEAKER

THE PRESIDENT

THE CHAIRMAN OF THE BOARD OF TRUSTEES



*Eighty-Eighth
Annual Commencement
June 11, 1982*

CALTECH'S ANNUAL MUSICAL
RAMO AUDITORIUM

Brigadoon

by ALAN JAY LERNER and FREDERICK LOEWE

FRIDAY, APRIL 8 / 8 PM

SATURDAY, APRIL 9 / 2:30 PM*

SUNDAY, APRIL 10 / 2:30 PM

FRIDAY, APRIL 15 / 8 PM

SATURDAY, APRIL 16 / 2:30 PM & 8 PM

SUNDAY, APRIL 17 / 2:30 PM

\$8.50 Reserved Seating

CIT/JPL Faculty & Staff: \$7.50

CIT Students: \$5.50

Other Students: \$7.50

Group Rates Available

FOR TICKETS

AND INFORMATION, CALL THE
CALTECH TICKET OFFICE: 356-4652

OR WRITE: TICKET OFFICE,

CALTECH (332-92), PASADENA, CA 91125

*(The April 9th performance will be interpreted for the
hearing-impaired)

Sponsored in part by the Caltech Committee on Institute Programs



SOUTHERN CALIFORNIA PERMANENTE MEDICAL GROUP

1526 NORTH EDMONT STREET

LOS ANGELES, CALIFORNIA 90027

554 51 72 --0484--

Dear:

1829-01 M O 12-41 5545172
BRENNEN CHRISTOPHER
A O O 1 6 2 X

Dr. Fitzpatrick has arranged for your admission and surgery to the Kaiser Foundation Hospital. The following are your appointment times and instructions that must be met before your surgery date. PLEASE FOLLOW THESE INSTRUCTIONS CAREFULLY.

- 1) You have been scheduled for a Pre-Operative Examination on:

Date: Dec. 27 Mon Time: 2:00 p.m.
with Dr. Yip located at

1510 Edgemont 4th fl.

- 2) You have final laboratory work that MUST BE COMPLETED BEFORE YOU ARE ADMITTED. Be at the laboratory in the basement of 1526 N. Edgemont on:

DATE: Dec. 29 Wed Time: around 12 noon

Tell the receptionist your laboratory slips are in an envelope in the accordion file.

After these tests have been completed:

You are free until your admitting time of:

DATE: _____ Time: _____

You may go home until your admitting time of:

DATE: _____ Time: _____

- 3) You are to be in the Admitting Office at 4867 Sunset for admission on:

DATE: Dec. 29 Time: 1:30 p.m.

- 4) Your surgery is scheduled for:

DATE: Dec. 30 Morning

If you have any questions about these appointment times or dates, PLEASE CALL US AT 213-667-6555.

Thank you,

Rachel

PRE-OP OFFICE

TQFR 81-82

ME 19B

FLUID MECHANICS AND GAS DYNAMICS

C. BRENNEN

9 units (3-0-6) — second term

responses received: 11

hours per week spent on this course:

1-3	4-6	7-9	10-12	13-15	16-18	19<	nr	mean
0	2	8	1	0	0	0	0	7.8

	1	2	3	4	5	6	7	nr	mean
challenge	-	-	2	5	4	-	-	-	4.2
organization	-	-	-	1	5	4	1	-	5.5
interest	-	-	-	1	1	5	4	-	6.1
text	-	1	1	1	2	1	-	5	4.2
homework	-	-	-	2	5	2	2	-	5.4
exams	-	-	-	2	8	-	1	-	5.0
TA performance	1	-	2	4	1	2	-	1	4.0
overall	-	-	-	1	2	5	3	-	5.9
prof org	-	-	-	1	2	5	3	-	5.9
prof clarity	-	-	-	-	2	4	5	-	6.3
prof questions	-	-	-	-	1	3	7	-	6.5
prof material	-	-	-	-	1	5	5	-	6.4
prof avail	-	-	1	1	-	4	3	2	5.8
prof overall	-	-	-	-	1	3	7	-	6.5

completed: 11

audited: 0

dropped: 0

classes: SO: 2 JR: 9

grades: A: 3 B: 5

options: EE: 1 ENG: 10

6 comments.

The course was outstanding, a "favorite" (4). Prof. Brenner was excellent (2), interesting and cared about the students (3). Homework was fun and understandable. The material was practical.

Bernard J. Sigler, CPA

P. O. Box 866, 19721 SCRIBER LAKE ROAD, LYNNWOOD, WASHINGTON 98036

Jan 4, 1982

Dear Mr. Brennan -

Mr. Sigler shared your letter with me.

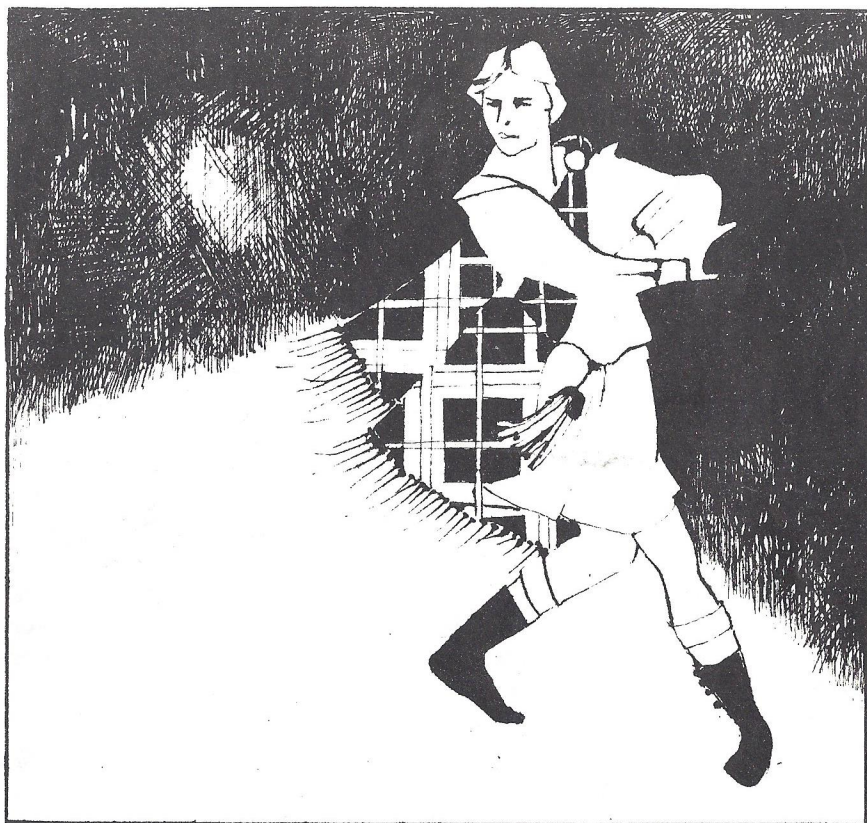
Glen was the oldest of ^{our} five boys. Our view of him was that he was a super guy who played life straight and applied himself willingly to his school and work. He was an example to his four younger brothers and me out of us.

Your letter reinforced my feelings for him. Someday maybe I'll be better able to understand death — and life. His death leaves me uncertain because I just don't understand —

Thanks for sharing your thoughts about Glen with us —

Sincerely,
Bernie Sigler

1982?



Brigadoon

Music by Frederick Loewe
Book and Lyrics by Alan Jay Lerner

This musical show is produced by special arrangement with and the music and dialogue material furnished by TAMS-WITMARK MUSIC LIBRARY, Inc., 560 Lexington Avenue, New York, N.Y. 10022.

SYNOPSIS

Brigadoon is the story of the magical encounter of two 20th century Americans with a mysterious 18th century Scottish village which is fated to reappear in the real world one day every hundred years.

ACT ONE

Lost hunting in the highlands, Tommy Albright and Jeff Douglass stumble upon a village, not on the map, called "Brigadoon." At the village square that sunny May morning Tommy meets a pert and lovely lass named Fiona MacLaren, who is busy helping her sister, Jean, prepare for her wedding to young Charlie Dalrymple, which is to take place that evening. Fiona, the older, is not married but is, as she says, "waitin' for my dearie." Jeff catches the eye of Meg Brockie, the town flirt, and is immediately swept off for some refreshment at the local tavern. Tommy, intrigued by the talk of a miracle, the odd quaintness of the town and his sudden attraction to Fiona, joins her as she goes out in the hills to gather some heather for the wedding.

Returning to the MacLaren house later that day Fiona leaves Tommy while she helps Jean dress and Jeff appears recounting an unusual day spent in the company of Miss Brockie. Tommy's glance falls on the MacLaren family Bible which Charlie had signed earlier, and he is stunned to see the wedding date listed as 1782. When he presses Fiona for an explanation, she takes him to Mr. Lundie, the schoolmaster, who is the only one who can explain the mystery of Brigadoon to strangers. Lundie reveals that Brigadoon was miraculously blessed and will only appear one day in every hundred years. No villager is allowed to leave, or the enchantment will be broken and the town will disappear forever. A stranger may stay only if he falls in love with someone of Brigadoon.

All go to the wedding, and the celebration is disrupted when Harry Beaton, Jean's broken-hearted suitor, decides to leave Brigadoon and destroy the town.

ACT TWO

The men chase Harry and he is stopped from his terrible intention, but only when he falls to his death from a high cliff. The men decide not to tell the others, but to let them discover the truth the next day. They return to the Glen where the wedding celebration is in full swing. Tommy tells Fiona that he is in love with her and wishes to remain in Brigadoon. Mournful piping interrupts the festivities as Archie Beaton, Harry's father, appears carrying the body of his son. Tommy tells Jeff of his intention to remain, but then discovers that Jeff was the inadvertent killer of the runaway. The shock of his friend's confession, and Jeff's persuasion that the whole experience is a dream, makes him doubt Fiona and Brigadoon, and they decide to return to America.

Disenchanted and haunted by the memory of Fiona, Tommy spurns Jane, his New York City fiancée, and convinces Jeff to return to Scotland. . .

RAMO AUDITORIUM

Fri. April 8 8pm

Sat. April 9 2:30pm

Sun. April 10 2:30pm

Fri. April 15 8pm

Sat. April 16 2:30 & 8pm

Sun. April 17 2:30pm

SYNOPSIS OF SCENES

ACT ONE

- SCENE 1. A forest in the Scottish Highlands
 SCENE 2. The village square of Brigadoon
 SCENE 3. The Brockie open shed
 SCENE 4. The MacLaren house
 SCENE 5. Mr. Lundie's
 SCENE 6. The village square of Brigadoon

ACT TWO

- SCENE 1. The forest
 SCENE 2. A road in Brigadoon
 SCENE 3. The glen
 SCENE 4. A bar in New York City, four months later
 SCENE 5. The forest—three nights later

The time is the present

MUSICAL NUMBERS

ACT ONE

Overture
Prologue
Brigadoon
Down on MacConnachy Square
Waitin' for My Dearie
I'll Go Home to Bonnie Jean
The Heather on the Hill
The Love of My Life
Jeannie's Packin' Up
Come to Me, Bend to Me
Almost Like Being in Love

Orchestra
 Chorus
 Chorus
 Chorus
 Fiona and Women
 Charlie and Chorus
 Tommy and Fiona
 Meg
 Women
 Charlie
 Tommy and Fiona

ACT TWO

Chase
There But for You Go I
My Mother's Weddin' Day
From This Day On
Finale

Men
 Tommy
 Meg and Chorus
 Fiona and Tommy
 Company

CAST

Tommy Albright	Peter Felker
Jeff Douglas	James Garvey
Andrew MacLaren	Colin Gordon
Jean MacLaren	Candi McCoy
Fiona MacLaren	Kim Cao
Archie Beaton	Al Hibbs
Harry Beaton	Don Fossgreen
Maggie Anderson	Pat Houseworth
Mr. Lundie	Chris Brennan
Charlie Dalrymple	Kenneth Graham
Meg Brockie	Jacque Fernández
Angus McGuffie	Huston Horn
Sandy Dean	Dean Elzinga
Stuart Dalrymple	Jerry Burch
Frank	Mike Van Dyke
Jane Ashton	Elaine Ford

Townspople	Concetto Geremia
	Erin Helmberger
	Ray Lischner
	Sue McCloud
	Diane Hood Ng
	Amber Novak
	Raul Relles
	Tony Stirk
	Karen White
	Craig Boyer
	Michael Crisp
	Diane Davis
	Noemi de la Puente
	Pam De Priest
	Shevaun Duiker
	Virginia Ellison
	Kathy Eriksen
	Ron Franz

Dancers	Jerry Burch
	Michael Crisp
	Kathy Eriksen
	Elaine Ford
	Ray Lischner
	Karen White

Sword Dance	Don Fossgreen
Funeral Tribute Dance	Pat Houseworth
Fishmonger	Kathy Eriksen

Special Appearances	Jim Morgan
	Ned Munger

ORCHESTRA

Violins

Michael Chwe
Elizabeth Harrington
Lisa Grubbs
Mark Ross

Viola

Dan Zirin

Cello

Steven Strand

Flute and Piccolo

Tom Skelton

Clarinets

Conrad Josias
Trudi Wreede

Oboe

Sarah Santoro

French Horn

David Hodge

Trumpets

Randy Tivens
Allan van Asselt
Carl Schultheisz

Trombone

George Pitt

Piano

Tetsuo Fukuchi

Percussion

Steve Thomas

Scottish Fiddler

Colin Gordon

Bagpipes

Richard Cook

Stage Crew

Matt Duiker
Steve Martin

Set Crew

Peter Felker
Don Fossgreen
Ron Franz
Jim Garvey
Jim Houseworth
Ray Lischner
Mike van Dyke

Light Crew

Kurt Andersen
Mike Hedblom

Properties Crew

Susan Berkley
Rennie Dudeck

Wardrobe Crew

Shevaun Duiker
Virginia Ellison
Dottie Weeden

STAFF

Producer

Jacquie Fernández

Director
Donald Caldwell

Music Director
Wendy Caldwell

Choreographers
Jimmie Lomath
Jane de Burlo Uliana

Production Coordinator
Business Manager
Jane de Burlo Uliana

Set and Lighting Designer
Christopher L. Harris

Consulting Stage Managers
Dave Spellman
Tom Lehman

Costume Designer
Beverly Bishop

Promotion
Dean Elzinga
Jacquie Fernández
Kenneth Graham

Costume Mistress
Shevaun Duiker

Properties
Noemi de la Puente

Photographers
Bob Paz
Steve Swanson

Makeup Designer
Derrie Koss

Graphics
Susan Berkley

Stage Manager
K. Jeffrey Eriksen

Scottish Country Dance
Rehearsal Coach
Ann Skipper

Master Electrician
Kurt Andersen

Interpreters
Dan Castle
Leslie Brandon

ACKNOWLEDGEMENTS

We would like to thank all of the staff of the Office of Public Events for their help and encouragement, with special thanks to: Jerry Willis, Tom Lehman, Dave Spellman, Chris Harcourt, Deborah Jo Fishler, Debbie White, Cara Stemen, Suzette Cummings, and Kitty Macdonnell.

We would also like to thank the following people and organizations for their generous support:

ASCIT
Alumni Association
Deans' Office
Friends of Beckman Auditorium
Master of Student Houses
Caltech Service League
President's Office
GSC
Theresa Meisling and Winnett Student Center
Harihar Rao
Joan Cable
Robert Gang
Greg van der Werff
Jan Glaviano
Ann Skipper for dance coaching
Sue McCloud
Caltech Y
Shirley Marneus and Theatre Arts
Duncan Mahoney
Marc Otto
Jim Morgan
David Mack
Don Browning
The California Tech
Pat Houseworth
Lyman Bonner
Christy Johnson

The Saturday April 9 matinee will be interpreted for the hearing-impaired.

Sponsored in part by the Caltech Committee on Institute Programs

WE WOULD LIKE TO ACKNOWLEDGE THE FOLLOWING

CAST

Child Rachel Moser

Special Appearances Loretta Novak
Lew Allen
Marvin Goldberger
David Morrisroe
Dwain Fullerton
Harry Gray
Abel Ramirez

ORCHESTRA

Cello
Kristi Wreede

Crew

Tom Skelton
Drew Cushman
Steven Trainoff
Phyllis Li
Bao Cao
Howard Johnson
David Schiller

Lights

Mark David Nielsen

Costumes

Susan Jones
Janet Preston

ACKNOWLEDGEMENTS

William and Delores Bing, Kim Kowalke, Wayne Reinecke, Tom Skelton, Drew Cushman, David and Kathy Moser, Loretta Novak, Ned Munger, Abel Ramirez, Brian Toby and Leslie Lippard.