



College of Information Studies

University of Maryland Hornbake Library Building College Park, MD 20742-4345

File Types

Session 5

INST 346

THE LAKELAND EVENING TELEGRAM

PUBLISHED IN THE BEST TOWN IN THE BEST PART OF THE BEST STATE

BOOST—REMEMBER THAT SATAN STAYED IN HEAVEN UNTIL HE BEGAN TO KNOCK HIS HOME TOWN

VOLUME VII

LAKELAND, FLORIDA, FRIDAY, FEB. 1, 1918

No. 78

BELIEVED THAT OUTBREAK IN BERLIN HAS REACHED ITS CLIMAX: RIOT LEADERS REPORTED UNDER ARREST

POLISH LEGION HAS DECLARED WAR ON BOLSHEVIKI GOVERNMENT

REVOLUTION COMMITTEES OF THE BLACK SEA FLEET HAVE SEIZED 40 SHIPS IN THE BLACK SEA

(By Associated Press.)
London, Feb. 1.—Owing to the break between the Bolshevik government and Rumania, the revolution committees of the Black Sea fleet resolved to confiscate means of transportation belonging to Rumania, according to an Exchange Telegraph dispatch from Petrograd. About forty steamships and several warships were seized in Black Sea harbors.

(By Associated Press.)
London, Feb. 1.—The latest telegram from Berlin reports the situation unchanged, says an Exchange Telegraph dispatch. The strike has not been extended. The Berliner Tageblatt reports troops seized the Trade Union building in Berlin, and arrested Deputy Koersten and other leaders.

HITHERTO UNKNOWN SERMONS OF ST. AUGUSTINE HAVE BEEN DISCOVERED

(By Associated Press.)
Amsterdam, Feb. 1.—A series of hitherto unknown sermons of St. Augustine have been discovered, German papers say, at Wolfenbutel, Brunswick, by Father Germain Morin, a Belgian Benedictine monk.

Live Stock of U. S. Valued At Over Eight Billion Dollars

(By Associated Press.)
Washington, Feb. 1.—The livestock in the United States Jan. 1 was valued at more than eight billion two hundred thousand dollars, the Department of Agriculture announced. This was an increase of more than a billion and a half over a year ago.

Davis Inaugurated Governor Of Virginia Today

AUSTRIAN ATTACK ON ITALIANS FAILED

(By Associated Press.)
Rome, Feb. 1.—Austrians attacked on the Asiago Plateau yesterday in an attempt to drive the Italians from their newly-won position in Monte di Val Bella, the war office announced. The enemy, however, was unable to reach the Italian line. The Italians by a sudden attack at dawn yesterday advanced their lines far ahead of Telegio valley in this sector.

HOP TWENTY TIMES ON EACH FOOT A TEST OF GOOD HEALTH

(By Associated Press.)
London, Feb. 1.—If you can hop 20 times on each foot without showing signs of undue distress, the British army considers your health good enough for general service, according to a new book of instructions issued to the examining medical boards. The test recommended is as follows:
"The rate of the pulse is taken, and then the recruit is directed to hop twenty times on each foot, raising the other foot nine inches. At the end of this performance, in good health there should be no noteworthy breathlessness and no pallor or anxiety of expression. Two minutes later the pulse should be not more than five beats more frequent than it was before the exercise."

Attempt Made Again On Life Of Lenine Was Unsuccessful

(By Associated Press.)
London, Feb. 1.—Another unsuccessful attempt was made on the life of Premier Lenine last night, according to the Petrograd correspondent to the Daily News. A young man in student's uniform entered Smolny

FIVE ENTENTE WARSHIPS REACH VLADIVOSTOK; CHINA REFUSES TO SEND FOOD TO RUSSIA

(By Associated Press.)
London, Feb. 1.—Five more entente warships have arrived at Vladivostok, according to special dispatches from Petrograd. It is added that China, acting on Allied advice, has forbidden the exportation of foodstuffs to Russia. It is reported in Moscow that the Turks proposed a separate peace to the Trans-Caucasian Council of Workmen's and Soldiers' Delegates.

hop twenty times on each foot, raising the other foot nine inches. At the end of this performance, in good health there should be no noteworthy breathlessness and no pallor or anxiety of expression. Two minutes later the pulse should be not more than five beats more frequent than it was before the exercise."

U. S. NAVAL RESERVE FORCES NUMBERS 69,000 MEN AND 7,800 OFFICERS

(By Associated Press.)
Annapolis, Feb. 1.—The United States naval reserve force, now embracing 69,000 men and 7,800 officers, is larger than the regular navy when was was declared and is three times as large as in the Spanish-American war. Secretary Daniels declared today, addressing a special graduation class of three hundred reserve officers at the Naval Academy.

President Reiterates His Opposition To War Council

(By Associated Press.)
Washington, Feb. 1.—President Wilson subpoenaed to the White House a dozen Republican and Democratic senators, and reiterated his opposition to the pending bills to create a super war council and a director of munitions.

Gambling Dens Frequented By Rich Women To Be Investigated

(By Associated Press.)

AUSTRIA SENDS MESSAGES TO PRESIDENT WILSON IT IS DISCLOSED

CZERNIN ASSURES PRESIDENT OF SINCERITY OF AUSTRIA

(By Associated Press.)
London, Feb. 1.—It is known positively, according to a Berne dispatch to the Daily Mail that Count Czernin sent numerous messages through private intermediaries to President Wilson assuring him of the sincerity of the Austrian government.

THEODORE N. VAIL IS ON HIS WAY TO MIAMI

Miami, Feb. 1.—Theodore N. Vail, president of the American Telegraph and Telephone Company, is on his way to Miami, making the trip down the inside route on board his palatial yacht, the Gaddy. The party left Daytona the latter part of last week but were delayed in the trip when the yacht struck a bar about three miles above Gifford.
In expectation of his arrival in Fort Pierce, special telephone wires were laid along the dock in order that the distinguished financier might be put in touch with the outside world.



T H E

British - Mercury.



Printed for the

Company of the Sun-Fire-Office, in Threadneedle-Street, behind the Royal-Exchange, London; where Policies in due Form are deliver'd out for Insuring Houses, moveable Goods, Furniture, and Wares, from Loss and Damage by Fire in any Part of Great Britain, to the Value of 500l. each Policy, to any Person who shall take them, paying the Stamp-Duty and the first Quarter, viz. Two Shillings if they desire no British-Mercury, or Two Shillings and six Pence if they will have it;

Either of which Quarteridges they are to pay within fifteen Days after every usual Quarter-day of the Year. The rest of the Conditions of the Insurance are contain'd in the Company's Proposals, printed the 4th of July last, which are to be had gratis at their said-Office.

Wednesday February 18. 17¹²/₁₃.

The History of the World continu'd.



A *NN. Mund. 2049. Semiramis enter'd upon the Assyrian Empire. She was the first Woman that, instead of her private Household-Affairs, ever took upon her the Administration of the Publick; and preferring Dominion before the Duties of her Sex, corrected the Error of Nature, which had given her a Woman's Body, by the Exercise of a masculine Soul. Her excellent Parts were tainted with excessive Vices. Thus it appears that for the most Part great* Semiramis.

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4\253\240^Gq\306\337\376\325OoQ\335\213\375\363\363^]w\354\273\242^T\254\215\270
\306\337\245^W\250^UE\355\352\266\236\316\264e\251\326^N\243\215yL\227^X\220]X\3
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6\233\323\267\313V\246\266\273)\326^W^Y^BF\376\355j8\334^F\321\203\357W\347JJ\21
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Agenda

- Some examples of file types
 - Text
 - Images
 - Video
 - Audio

ASCII

- Widely used in the U.S.
 - American Standard Code for Information Interchange
 - ANSI X3.4-1968



0	NUL	32	SPACE	64	@	96	`
1	SOH	33	!	65	A	97	a
2	STX	34	"	66	B	98	b
3	ETX	35	#	67	C	99	c
4	EOT	36	\$	68	D	100	d
5	ENQ	37	%	69	E	101	e
6	ACK	38	&	70	F	102	f
7	BEL	39	'	71	G	103	g
8	BS	40	(	72	H	104	h
9	HT	41	)	73	I	105	i
10	LF	42	*	74	J	106	j
11	VT	43	+	75	K	107	k
12	FF	44	,	76	L	108	l
13	CR	45	-	77	M	109	m
14	SO	46	.	78	N	110	n
15	SI	47	/	79	O	111	o
16	DLE	48	0	80	P	112	p
17	DC1	49	1	81	Q	113	q
18	DC2	50	2	82	R	114	r
19	DC3	51	3	83	S	115	s
20	DC4	52	4	84	T	116	t
21	NAK	53	5	85	U	117	u
22	SYN	54	6	86	V	118	v
23	ETB	55	7	87	W	119	w
24	CAN	56	8	88	X	120	x
25	EM	57	9	89	Y	121	y
26	SUB	58	:	90	Z	122	z
27	ESC	59	;	91	[	123	{
28	FS	60	<	92	\	124	
29	GS	61	=	93	]	125	}
30	RS	62	>	94	^	126	~
31	US	63	?	95	_	127	DEL

The Latin-1 Character Set

- ISO 8859-1 8-bit characters for Western Europe
 - French, Spanish, Catalan, Galician, Basque, Portuguese, Italian, Albanian, Afrikaans, Dutch, German, Danish, Swedish, Norwegian, Finnish, Faroese, Icelandic, Irish, Scottish, and English

Printable Characters, 7-bit ASCII

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Additional Defined Characters, ISO 8859-1

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Other ISO-8859 Character Sets

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East Asian Character Sets

- More than 256 characters are needed
 - Two-byte encoding schemes (e.g., EUC) are used
- Several countries have unique character sets
 - GB in Peoples Republic of China, BIG5 in Taiwan, JIS in Japan, KS in Korea, TCVN in Vietnam
- Many characters appear in several languages
 - Research Libraries Group developed EACC
 - Unified “CJK” character set for USMARC records

Unicode

- Single code for all the world's characters
 - ISO Standard 10646
- Separates “code space” from “encoding”
 - Code space extends Latin-1
 - The first 256 positions are identical
 - UTF-7 encoding will pass through email
 - Uses only the 64 printable ASCII characters
 - UTF-8 encoding is designed for disk file systems

```

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    border-collapse: collapse;
}
th, td {
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}
</style>

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Technologies, Infrastructure and Architecture <br>
Spring 2018 <br>
Schedule
</center>
</h2>
<hr>

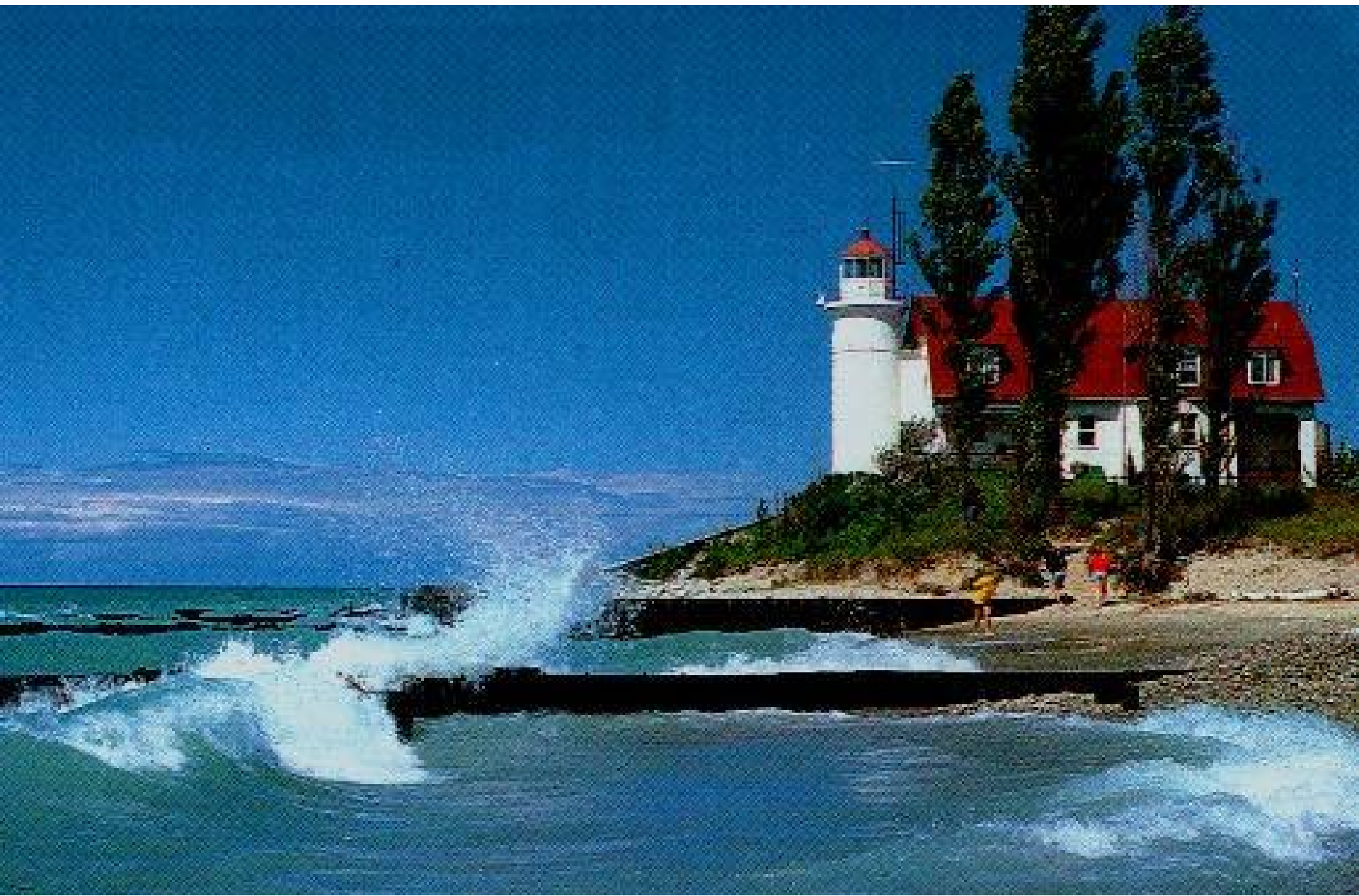
<center>

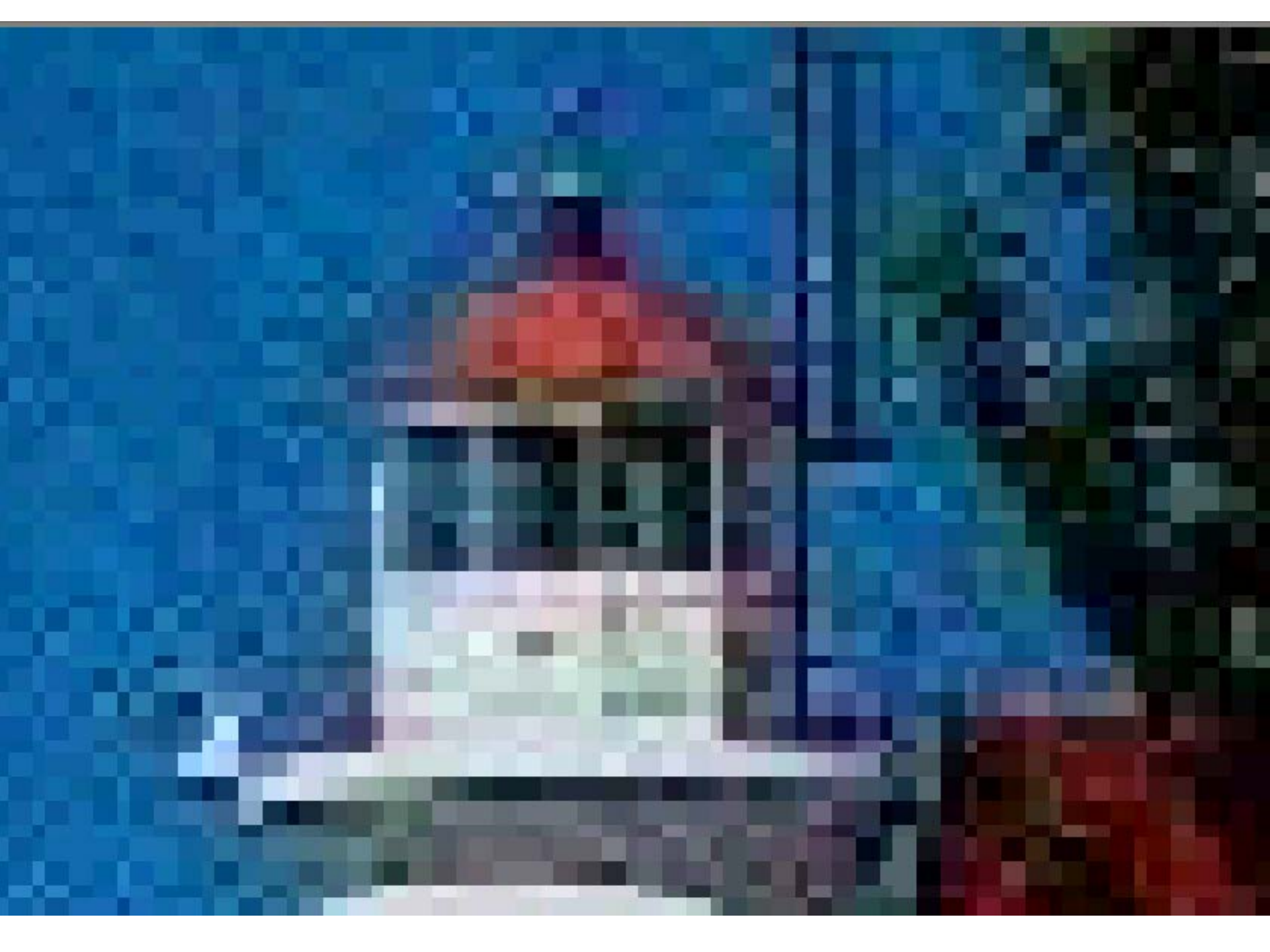
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</th></tr><tr> <td> <center>1</center>
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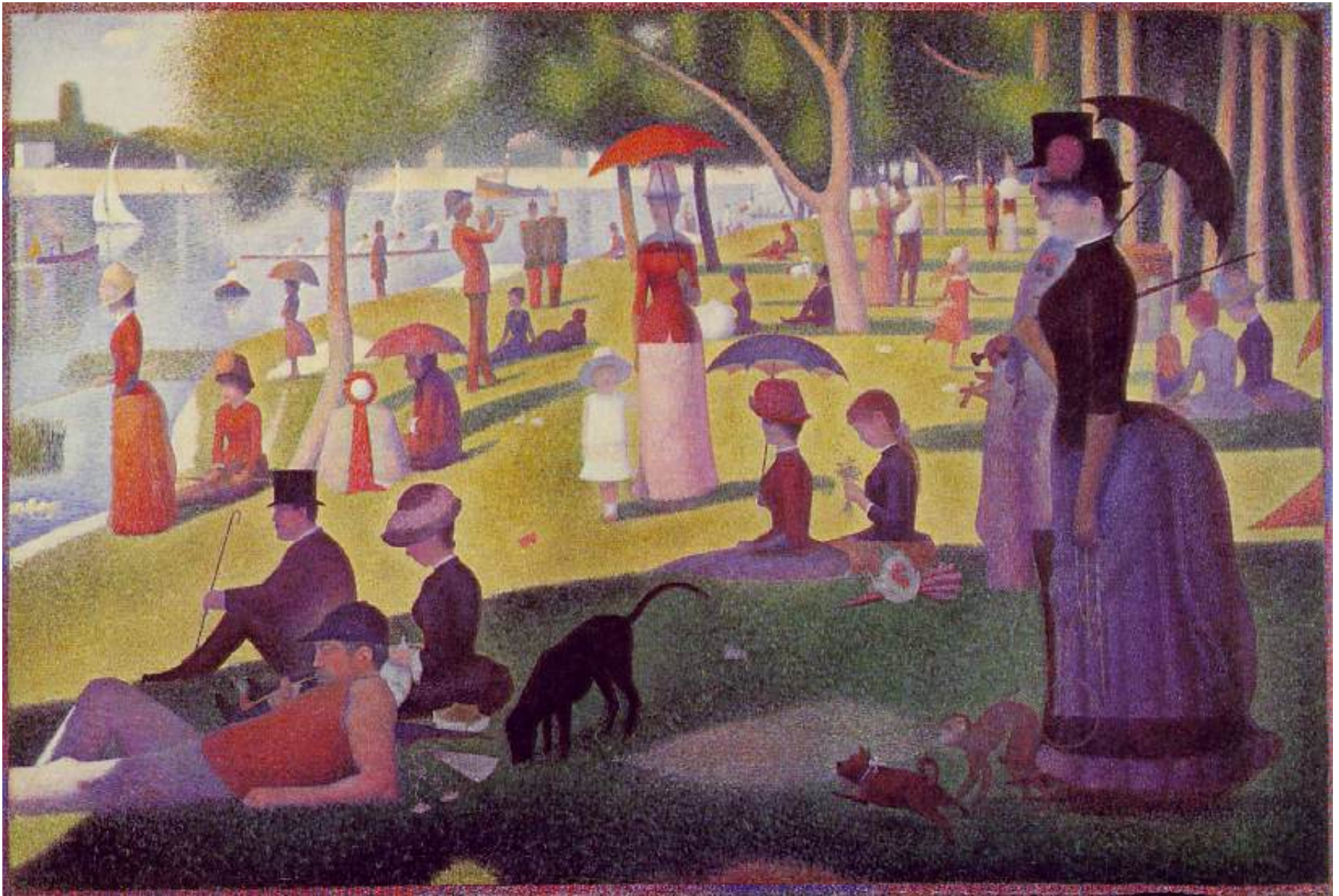
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Nothing new...



Georges Seurat, A Sunday Afternoon on the Island of La Grande Jatte

Visual Perception

- Closely spaced dots appear solid
 - But irregularities in diagonal lines can stand out
- Any color can be produced from just three
 - Red, Blue and Green: “additive” primary colors
- High frame rates produce apparent motion
 - Smooth motion requires about 24 frames/sec
- Visual acuity varies markedly across features
 - Discontinuities easily seen, absolutes less crucial

Basic Image Coding

- Raster of picture elements (pixels)
 - Each pixel has a “color”
 - Binary - black/white (1 bit)
 - Grayscale (8 bits)
 - Color (3 colors, 8 bits each)
 - Red, green, blue
- Screen
 - A 1024x768 image requires 2.4 MB
 - So a picture is worth 400,000 words!

Compression

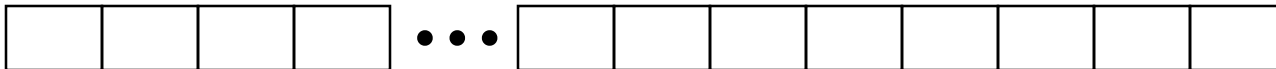
- Goal: reduce redundancy
 - Send the same information using fewer bits
- Originally developed for fax transmission
 - Send high quality documents in short calls
- Two basic strategies:
 - Lossless: can reconstruct exactly
 - Lossy: can't reconstruct, but looks the same

Palette Selection

- Opportunity:
 - No picture uses all 16 million colors
 - Human eye does not see small differences
- Approach:
 - Select a palette of 256 colors
 - Indicate which palette entry to use for each pixel
 - Look up each color in the palette

“The rain in Spain falls mainly in the plain”

→ [$\ast$ =ain, $\wedge$ =in] “The r $\ast$ $\wedge$ Sp $\ast$ falls m $\ast$ ly $\wedge$ the pl $\ast$ ”



Run-Length Encoding

- Opportunity:
 - Large regions of a single color are common
- Approach:
 - Record # of consecutive pixels for each color

Sheep go baaaaaaaaa and cows go mooooooooooo → Sheep go ba<10> and cows go mo<10>
--

- An example of lossless encoding

GIF

- Palette selection, then lossless compression
- Opportunity:
 - Common colors are sent more often
- Approach:
 - Use fewer bits to represent common colors

• 1	Blue	75%	$75 \times 1 = 75$	$75 \times 2 = 150$
• 01	White	20%	$20 \times 2 = 40$	$20 \times 2 = 40$
• 001	Red	5%	$5 \times 3 = \underline{15}$	$5 \times 2 = \underline{10}$
			130	200

JPEG

- Opportunity:
 - Eye sees sharp lines better than subtle shading
- Approach:
 - Retain detail only for the most important parts
 - Accomplished with Discrete Cosine Transform
 - Allows user-selectable fidelity
- Results:
 - Typical compression 20:1

Variable Compression in JPEG



37 kB (20%)



4 kB (95%)

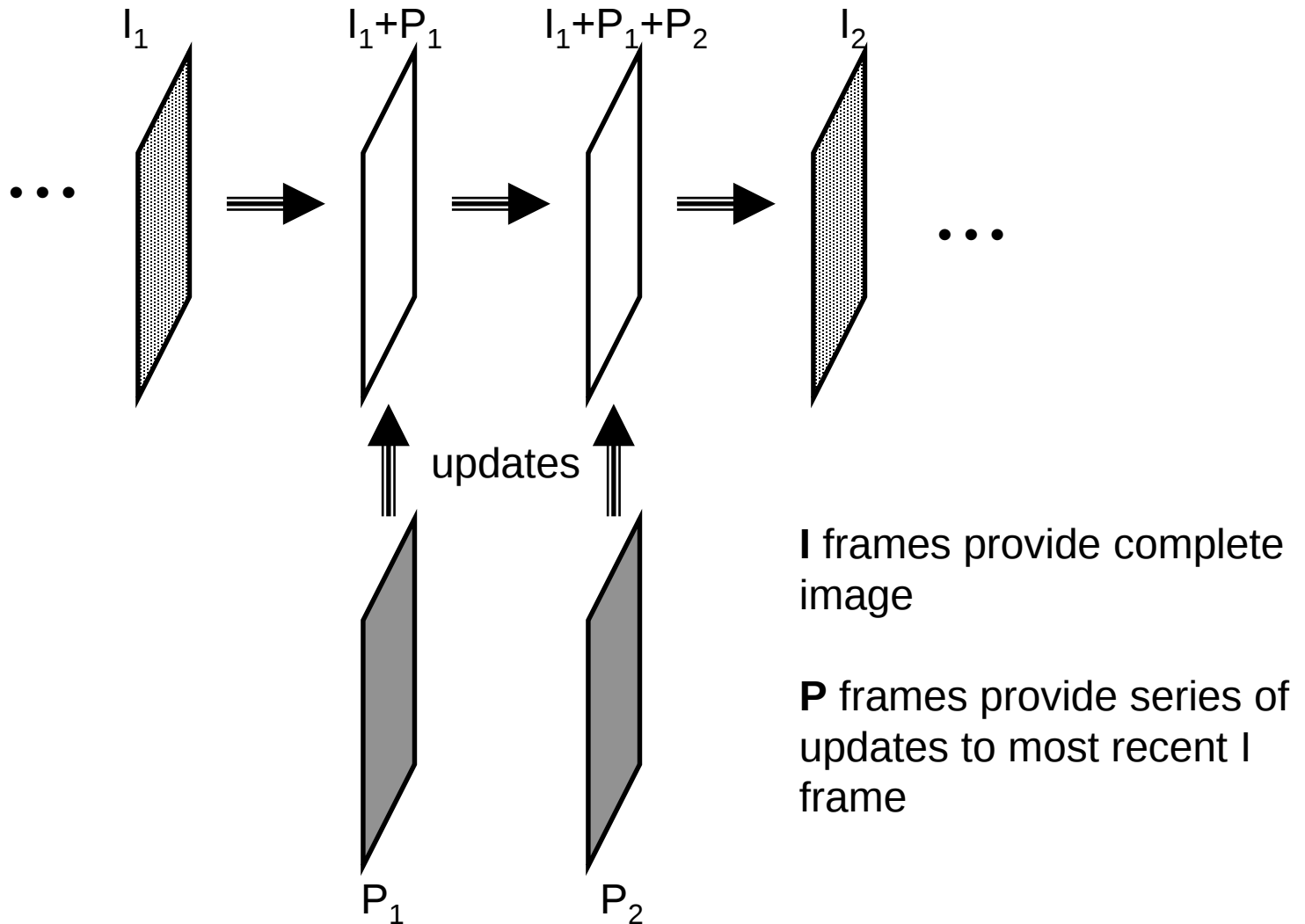
Video Data Rates

- “NTSC” Quality Computer Display
 - 640 X 480 pixel image
 - 3 bytes per pixel (red, green, blue)
 - 30 Frames per Second
- Storage
 - 3 minutes would require 4.74 GB (a full DVD!)
- Required transfer rate
 - 26.4 MB/second
 - Near the bandwidth of many disk drives

Video Compression

- Opportunity:
 - One frame looks very much like the next
- Approach:
 - Record only the pixels that change
- Standards:
 - MPEG-2: HDTV and DVD
 - MPEG-4: Web video (streaming)

MPEG Encoding



Basic Audio Coding

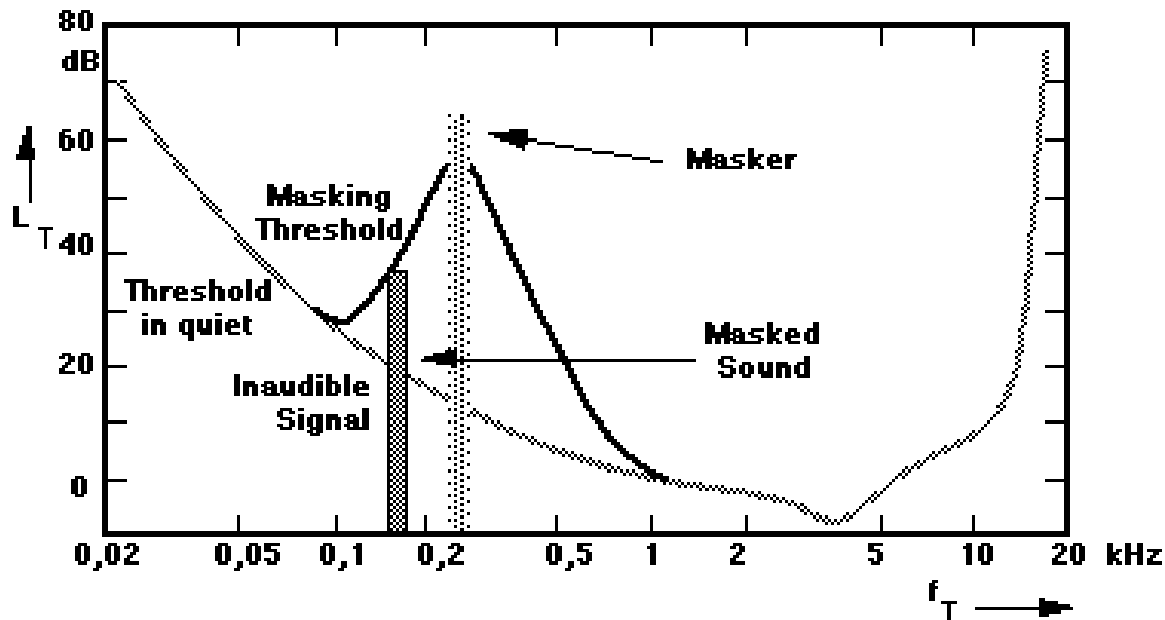
- Sample at twice the highest frequency
 - 8 bits or 16 bits per sample



- Speech (0-4 kHz) requires 8 kB/s
 - Standard telephone channel (1-byte samples)
- Music (0-22 kHz) requires 172 kB/s
 - Standard for CD-quality audio (2-byte samples)

Music Compression

- Opportunity:
 - The human ear cannot hear all frequencies at once
- Approach:
 - Don't represent “masked” frequencies
- Standard: MPEG-1 Layer 3 (.mp3)



Agenda

- Some examples of file types
 - Text
 - Images
 - Video
 - Audio
- Key storylines
 - Compression
 - More than the content
 - Context
 - Layout

Before You Go!

- On a sheet of paper (no names), answer the following question:

What was the muddiest point in today's class?