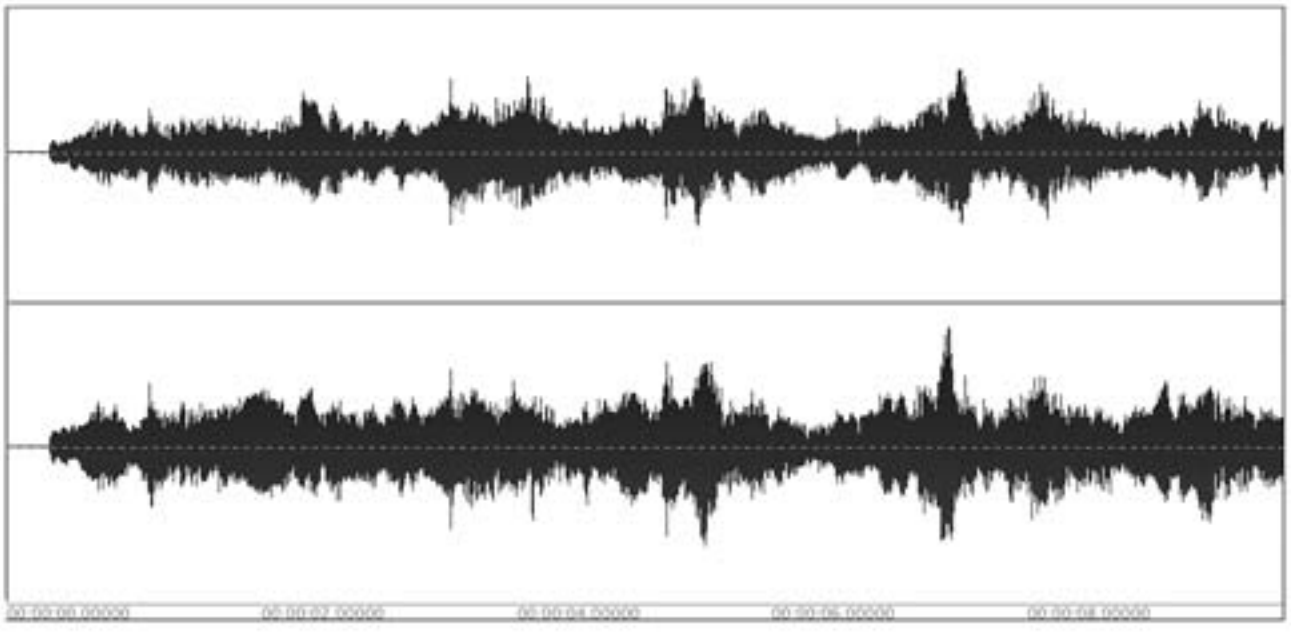
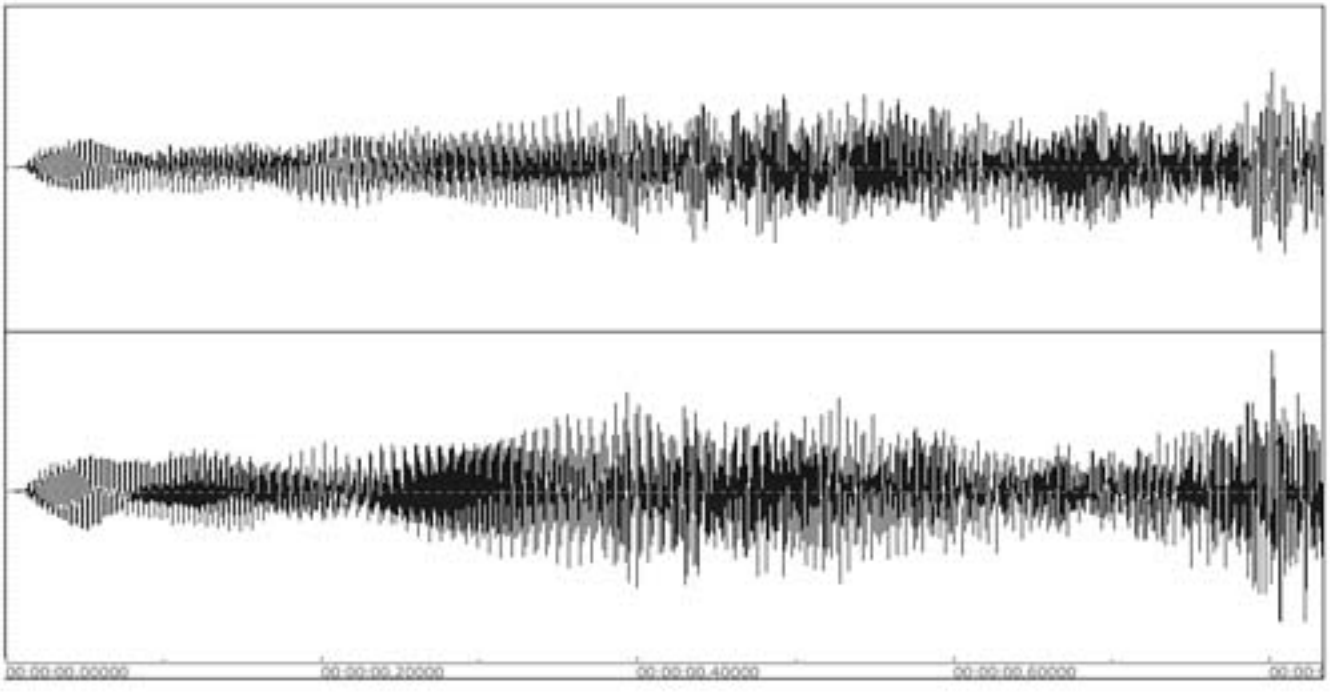
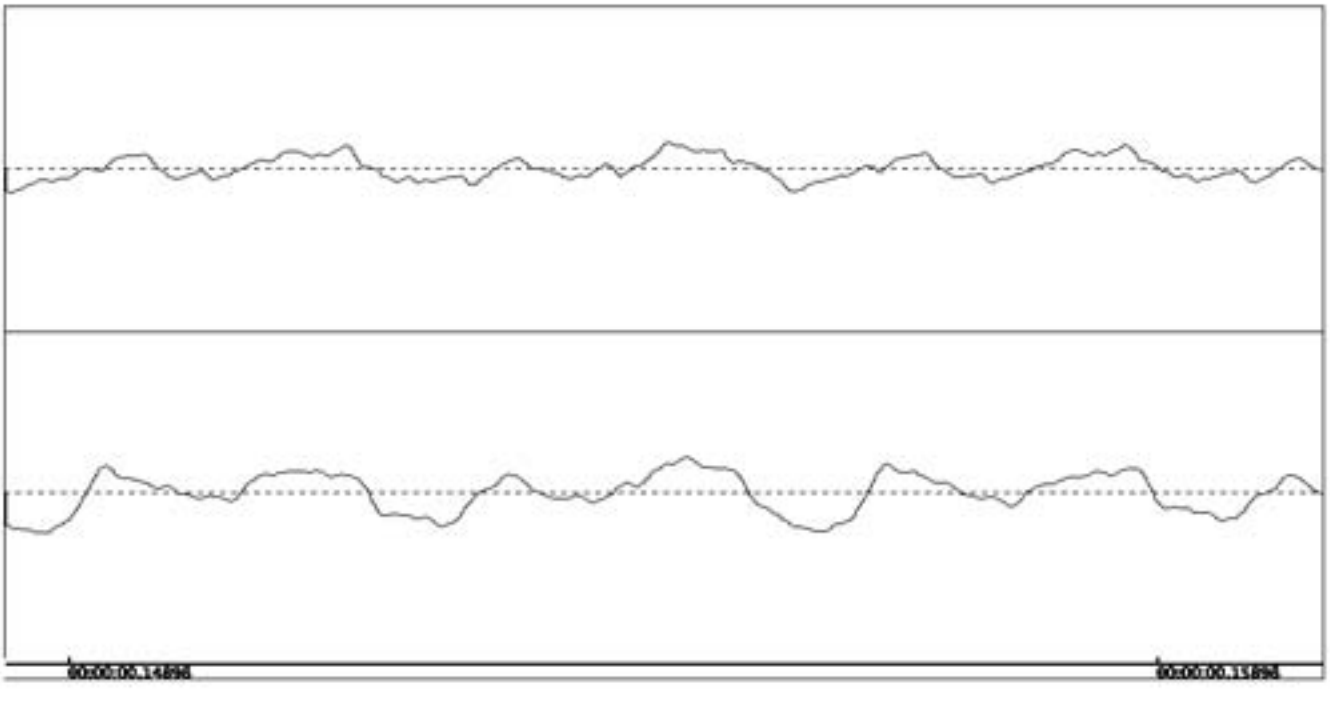
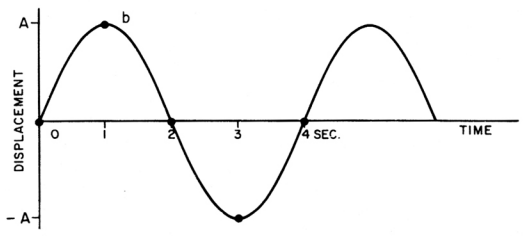
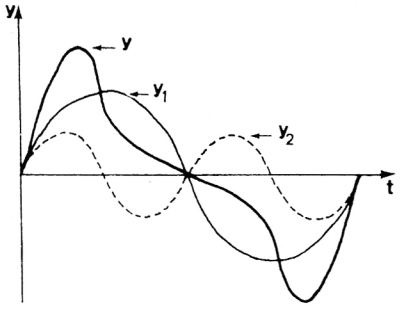






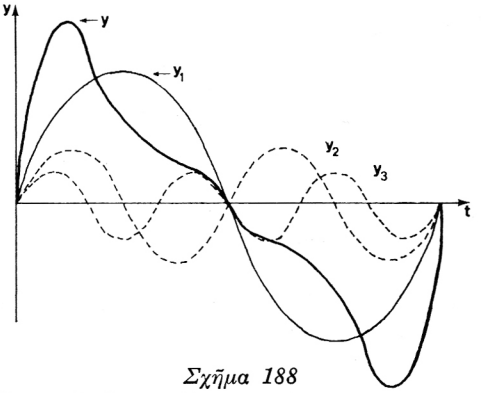


Graph of displacement versus time for an object moving with simple harmonic motion.



Σχῆμα 187

Ἡ περιοδικὴ καμπύλη y προέρχεται ἐκ συνθέσεως τῶν δύο ἡμιτονοειδῶν (ἁρμονικῶν) συναρτήσεων y_1 καὶ y_2



Σχῆμα 188

Ἡ περιοδικὴ καμπύλη y προέρχεται ἐκ συνθέσεως τῶν τριῶν ἁρμονικῶν συναρτήσεων y_1, y_2 καὶ y_3 συχνοτήτων ἀντιστοίχως ν, 2ν καὶ 3ν

Frequency	*Number of partials*	*Percentage of energy*	*Decibel value*
196	1	0.1	
392	2	26.0	24.2
588	3	45.2	26.6
784	4	8.8	19.5
980	5	8.5	19.3
1176	6	4.5	16.5
1372	7	0.1	1.3
1568	8	4.8	16.8
1764	9	0.1	0.6
1960	10	0.0	*
2156	11	0.1	1.3
2352	12	0.0	*
2548	13	0.2	2.4
2744	14	0.0	*
2940	15	0.1	*
3136	16	0.0	*
3332	17	1.1	10.4
3528	18	0.1	*
3724	19	0.2	2.6
3920	20	0.0	
		99.9	

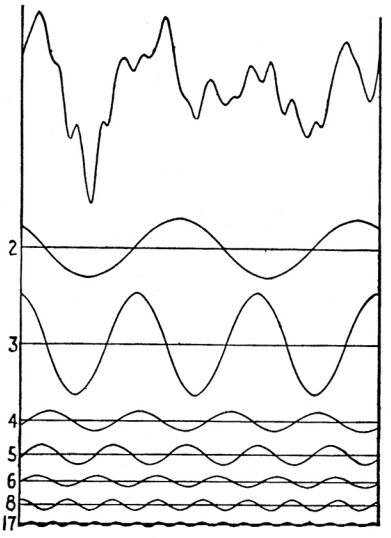


FIG. 1.—Dominant partials in a violin tone (see Table I).

COMPARISON OF PERCENTAGE OF ENERGY AND DECIBEL VALUE IN ONE WAVE OF A VIOLIN TONE, 196~

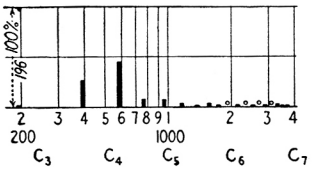


FIG. 2*a*.—Tone spectrum in terms of percentage of energy.

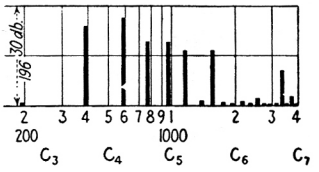
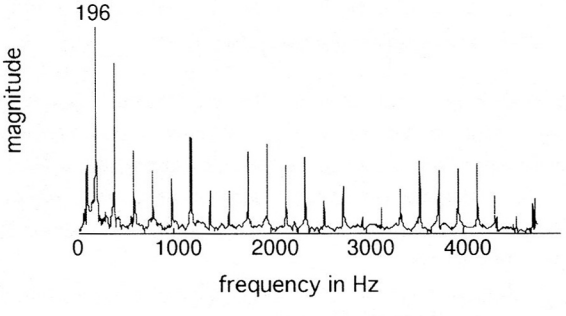
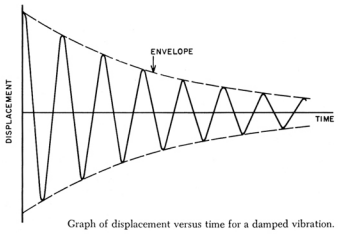


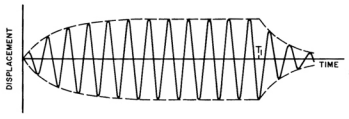
FIG. 2*b*.—Tone spectrum in terms of decibel values.

The spectrum shows the fundamental at 196 Hz and harmonics of the pluck of the "G" string of an acoustic guitar.

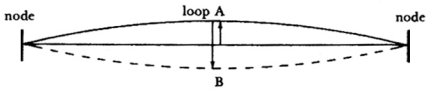


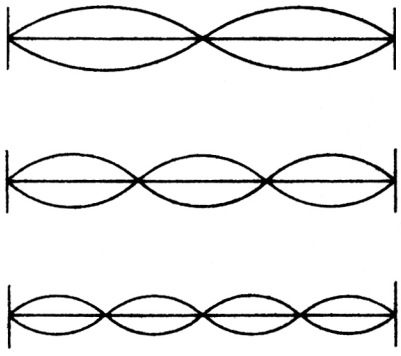


Graph of displacement versus time for a damped vibration.



Growth and decay of a vibration.





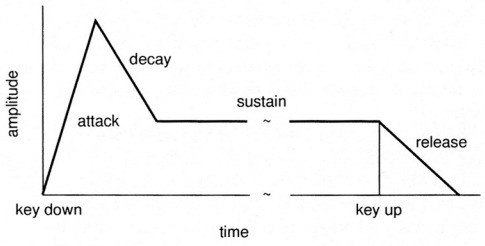
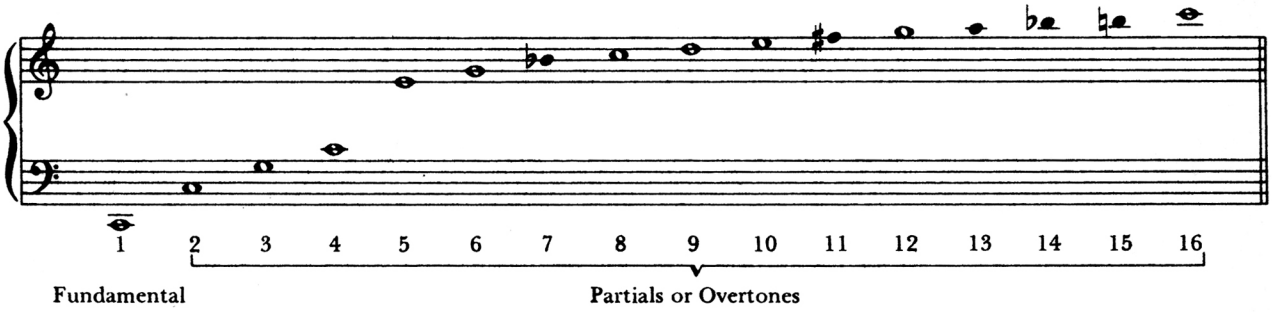


Figure 2.9. The ADSR envelope defines a loudness contour for a synthesized sound. The attack is triggered by the key press. After a specified time, the sound decays to its sustain level, which is maintained until the key is raised. Then the loudness dies away at a rate determined by the release parameters.



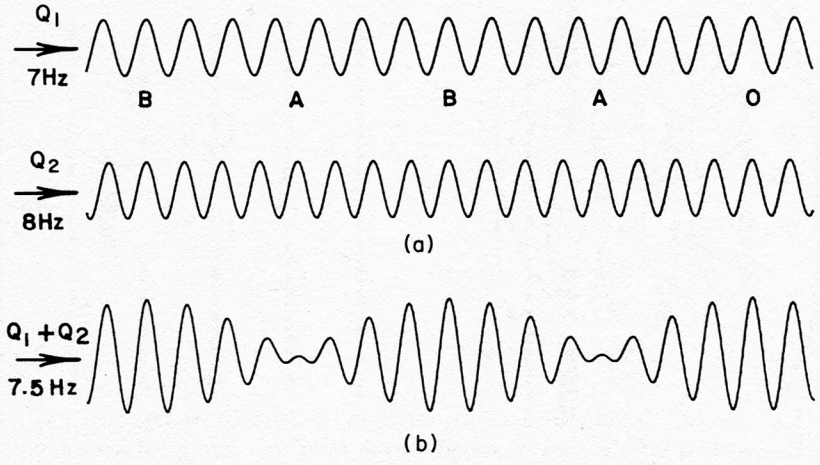


FIG. 20. Production of beats. (a) Waves from two separate sources of slightly different frequency. (b) Resultant wave formed by the superposition of the two separate waves.

Fig. 3. The Pythagorean comma

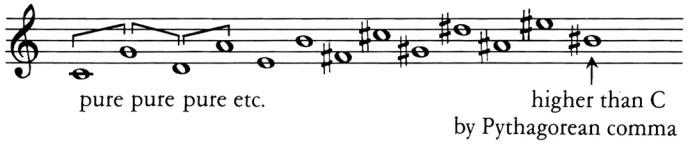


Fig. 4. The syntonic comma