

## Alien moods

### Description

The quest for communication with extraterrestrial intelligences teaches us more about human culture than we are likely to learn from putative aliens. Inquiry into alien communication leads inevitably to speculations about such communications as presented in plays, films, sound works and video games.

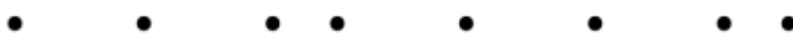
### Alien movies

The composer John Williams has scored several films about aliens. Notably, he evoked alien communication in the 5-note sequence (D E C C G) in the film *Close Encounters of the Third Kind*. The second C is an octave below the first. The sequence is usually written in the key of C major, i.e. made up of white notes on a piano keyboard. The 5 notes in the sequence also belong to the keys of F major and G major, which are adjacent on the circle of fifths. That ambiguity, and in particular the relationship with G major, positions the sequence within a particular note order known as the *Lydian* scale. In the Lydian scale the fourth note in the C major scale is raised by a semitone. If you insert an F# somewhere in the 5-note sequence then it sounds even more Lydian, and it seems to fit the mood of the film sequence.

There's a lot of information online and in YouTube clips about the Lydian mode. According to composers such as Rick Beato, the mode is a useful way for filmmakers to signal in an optimistic and upbeat way that something mysterious and important is happening. An unscientific survey of blogs and YouTube clips, whether rock, jazz, Latin or classical, deliver terms such as "ethereal," "dreamy," "heroic," "hopeful," and "other worldly" to describe the Lydian mode.

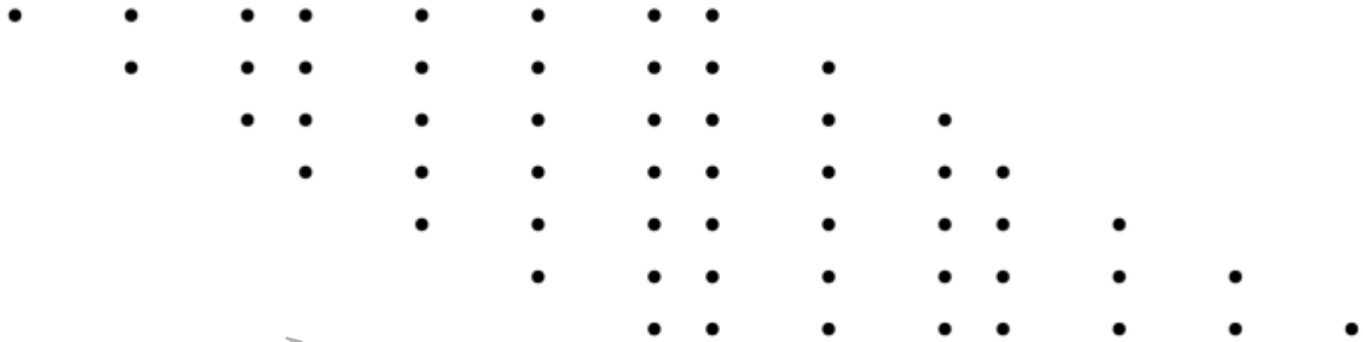
### What's a mode?

The Lydian sequence is a musical "mode," one of seven in the modern Western tradition. The sequence of black dots in the following are notes on the Western 12 note scale, ascending in pitch.



The spacing is uneven: a sequence of full tone spaces interspersed with half tones. The dots in the sequence are the white notes on the piano, with the first and last dot as the note C. The pattern repeats across the keyboard.

If you start the pattern on the second dot instead of the first then you get a different sequence. The Western musical tradition deploys 7 such sequences, each a displacement of the one that precedes it.



These modes have names: Ionian, Dorian, Phrygian, Lydian, Myxolydian, Aeolian and Locrian. The Ionian and the Aeolian are the major and minor scales respectively. The others sound more exotic and less resolved.

If I pull the patterns back to the same starting position (the tonic/key note) then we have different modes from the same starting note.

Ionian (Major)	•	•	•	•	•	•	•	•
Dorian	•	•	•	•	•	•	•	•
Phrygian	•	•	•	•	•	•	•	•
Lydian	•	•	•	•	•	•	•	•
Myxolydian	•	•	•	•	•	•	•	•
Aeolian (Minor)	•	•	•	•	•	•	•	•
Locrian	•	•	•	•	•	•	•	•

You can apply the pattern to any starting notes, but if the initial key note is C that produces the following note sequences.

Ionian (Major)	C		D		E	F		G		A		B	C
Dorian	C		D	E <sub>b</sub>		F		G		A	B <sub>b</sub>		C
Phrygian	C	D <sub>b</sub>		E <sub>b</sub>		F		G	A <sub>b</sub>		B <sub>b</sub>		C
Lydian	C		D		E		F <sub>#</sub>	G		A		B	C
Myxolydian	C		D		E	F		G		A	B <sub>b</sub>		C
Aeolian (Minor)	C		D	E <sub>b</sub>		F		G	A <sub>b</sub>		B <sub>b</sub>		C
Locrian	C	D <sub>b</sub>		E <sub>b</sub>		F	F <sub>#</sub>		A <sub>b</sub>		B <sub>b</sub>		C

## Modes and moods

There's an interesting article by Ramos et al that tests the usual assumptions about these modes and equates them with basic emotional states: sad, happy, uplifting, etc. The correspondence seems to work for most listeners.

In the Lydian mode, the pitch interval between the reference tone (C) and the 4th tone (F#) is a very dissonant interval of six semitones. This interval (augmented 4th) was referred to in the past as the "diabolus in musica", suggesting that it has a very specific "diabolic" emotional effect. (167).

It's the Lydian that seems to meet the requirements for the representation of uplifting alien encounters, and Beato refers to Yoda's theme in Star Wars and other cinematic moments. A tune can shift in and out of the various modes. It's subtle, but a sharpened fourth makes a lot of difference.

The modes derive their names from ancient Greek regions, and Lydia had its own architectural character, but there is no correspondence between the places so named and the modes. On the other hand, modes are part of the affective context of spatial experience. See posts tagged [mood](#).

## Reference

- Beato, Rick. 2020. The Lydian Mode | Why Film Composers and Rock Guitarists Love This Sound. *YouTube*, 5 January. Available online: <https://www.youtube.com/watch?v=O4IJnSTS84A> (accessed 10 September 2021).
- Ramos, D., J.L.O. Bueno, and E. Bigand. 2011. Manipulating Greek musical modes and tempo affects perceived musical emotion in musicians and nonmusicians. *The Brazilian Journal of Medical and Biological Research*, (44) 2, 165-172.
- Schneller, Tom. 2014. Sweet Fulfillment: Allusion and Teleological Genesis in John Williams's "Close Encounters of the Third Kind". *The Musical Quarterly*, (97) 1, 98-131.

## Category

1. Music

## Tags

1. aliens
2. cryptography

## Date Created

September 12, 2021

## Author

rcoyne99

*default watermark*