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Pythagoras and the Scales

By MARY FINCH HARVEY

CAST OF CHARACTERS

Pythagoras	Melodic Minor Scale
Spirit of Today	Hungarian Scale
Major Scale	Chromatic Scale
Aeolian Scale	Whole Tone Scale
Indian Scale	Pentatonic Scale
Harmonic Minor Scale	Reader for Prologue and Epilogue.

Prologue: While unfolding this brief little play

We bring you the story of scales.

It goes back over many a day

And furnishes interesting tales.

Enter Pythagoras. (Other characters are seated on stage.)

Spirit of Today: Who are you, stranger, and where do you come from?

Pythagoras: My name is Pythagoras. I lived many years ago in the land of Greece. A philosopher was I, and interested in music. By studying the experiments of others and making some of my own, I made contributions to the art. The most valuable was the fixing of the octave as the union of perfect fourth and fifth.

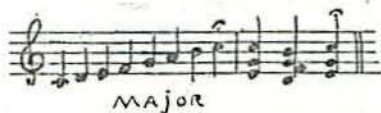
Spirit of Today: That was indeed a great step forward, and we feel very grateful to you. Your discovery has led to many wonderful things. Would you like to hear some of the results?

Pythagoras: Indeed I would.

Spirit of Today: Good. Let us go over near the piano, one of our most important instruments. Will you sit here? (*Placing Pythagoras in good view of the keys.*) Now these black and white blocks are keys. From any one to the very next is called a half-step, and the distance of two half-steps makes a whole-step. (*Illustrates.*) When you know these you have the key to our whole system of scales.

Pythagoras: Scales! I thought they were the covering of fish.

Spirit of Today (laughing): That is one kind. Musical scales are *tone-ladders* which the fingers of pupils must learn to climb. You had something like them, your modes. We use the word mode differently. We group the bright, cheerful-sounding scales into what we call the major mode. Let me introduce this scale.



Major Scale: Here is my pattern, Pythagoras. Start on any tone, ascend two whole-steps, one half-step, three whole-steps, one half-step. (*Plays major scale slowly.*) Do you not like me? Then coming down it is just backwards, you see.

Pythagoras: Lovely! But very different from the music I knew.

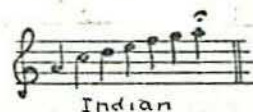
Aeolian Scale: I'm the oldest of many forms of the soft, weird, sad-sounding

mode. I have many names, Pure, Natural, Normal, but my real one is Aeolian; I'm a descendant of your Aeolian mode.

Pythagoras (Shaking hands): How glad I am to see you! I feel at home talking to you. How do you sound now?



Aeolian Scale: I begin on the sixth tone of the major and contain exactly the same tones, only having the new keynote. (*Plays.*) Perhaps you know how I feel. I'm older and neglected as I don't fit into the present scheme of harmony without alterations. But here is an interesting sister who is very much like me, the *Indian Scale*.



Indian Scale: I am not of India, but of the North American Indians. In late years much interest has been taken in me. Composers have gone to the remaining Red Men to learn more of their music and find fresh working material. They found the Indian Scale like *Aeolian* except that the second tone is entirely omitted. (*Plays.*)

Pythagoras: Mournful though interesting music! A small change in the scale made quite a difference. Who is next?



Harmonic Minor: I, *Harmonic Minor*, made by raising the seventh tone of *Aeolian* one half-step; this makes a wide gap at the top. (*Plays.*) This is done to make me fit into harmony. You didn't have chords in your music, did you?

Pythagoras: No, we couldn't endure hearing tones combined.

Melodic Minor (runs forward): Ha! Well, you should just hear some combinations now! I'm *Melodic Minor*, made because people have difficulty singing that wide gap in *Harmonic*. Raise the

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Pythagoras and the Scales

(Continued)

sixth and seventh tones of *Aeolian* ascending (*plays*) and lower them descending (*plays*). Coming down, I'm exactly like *Aeolian*.



Melodic

Pythagoras: Oh, I love the minor mode!

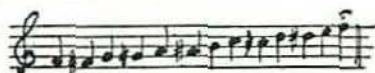
Gypsy Minor: I'm *Gypsy Minor*, the hardest of the lot and am like *Harmonic* except that the fourth tone is also raised one half-step. (*Plays*.) Lots of pupils don't know me. They just wonder what makes *Gypsy* music "sound that way." I appear all decorated with turns and graces in *Hungarian* music.



Hungarian

Pythagoras: That was beautiful—sad and yet gay, too! Who is next?

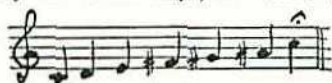
Chromatic Scale: I am called *Chromatic Scale*. *Chrome* means "color." I contain all the colors in the musical box. I proceed by half-steps. Not one is omitted. (*Plays*.) I can imitate the sighing of the wind. (*Plays chromatic scale again very quickly*.)



Chromatic

Pythagoras: I like that very much.

Whole Tone Scale: When I introduce myself I have to confess that I'm a stranger to many people also. My name is *Whole Tone Scale*, as I am composed entirely of whole steps, or whole tones.



Whole-tone

(*Plays whole tone scale slowly*.) Why, *Pythagoras*, you looked shocked! Don't you really like me? Listen again. You will like me better the second time. (*Plays again*.)

Pythagoras: Yes, you are right. The second time was better than the first; but you are a little hard to get used to.

Whole Tone Scale: Listen to some of my chords, too. Don't you like them? (*Plays augmented fifth chords*.)

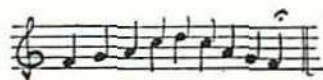


Augmented Chords

Pythagoras: Yes, I admit those chords are rather fascinating. They have a quality all their own.

Pentatonic Scale: I have a quality all my own, too. My name is *Pentatonic Scale*, which means "five-tone scale." The first, second, third, fifth and sixth of the *Major Scale*. Listen. (*Plays pentatonic scale*). A good deal of *Scotch* music is made on that scale, and it is also the scale of *Chinese* music.

Pythagoras: Indeed! *Chinese* music! That dates back as far as our music. In my day we *Greeks* were really very modernistic, you know.



Pentatonic

Spirit of Today: Well, *Pythagoras*, I hope you have found our present day scales as interesting as yours and that you have enjoyed hearing them.

Pythagoras: Indeed, yes. And how can I thank you for such a wonderful day? If I could have dreamed to what my experiments would lead! Many dreary hours, days, weeks, I worked alone experimenting in the science of sound, while my friends were feasting or amusing themselves. But I am so glad that I kept at it and that the beautiful music of the world today came to be created as a result of those old experiments. I hope you will all think of me some times when you are playing your various scales. (*Exit Pythagoras*.)

Epilogue: And now that our play's at an end

We hope you have found these brief tales

Contain many things that will help
To make you remember the scales.