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Title: Continental movement and sea floor spreading.

Producer: Barrie Whatley.

Contributors: Ian Gass.

(Marketing title: Sea floor spreading and plate tectonics)

CU S 100/25 (1973)
Tape No. 6HT/71129
Project No. 00525/1054
O.U. film no. 190
Date Recorded.
1st TX. 28.7.1973
Form VCR
Duration 22'53"
Class nos. 538.72
551.46084
551.41

Summary: Current theories of how continental drift and sea floor spreading have taken place in the context of plate tectonics are examined.

Seq.	Time.	Footage.	Sequence List.	Sound Cue
	1'22"	37	Computer animated film of the earth showing continents in motion. Commentary by Ian Gass introduces the programme.	
1	5'05"	126	Shots of mountains, sea shores and the sea. Gass speculates on the mechanism for continental drift. Shot of a model of the mid-Atlantic Ridge and other oceanic ridges. Gass points out the correlation between oceanic ridges and seismic activity. He builds up a picture of crustal activity for the globe.	
	6'51"	163	An animated film of the earth in cross section shows convection currents in the mantle thought to be possible mechanisms for continental drift. Commentary by Gass. Several more animations demonstrate the possibility of this mechanism.	....has been attempted.
	7'50"	183	Film shots show drilling aboard the Glomar Challenger which as part of Project Mohole attempted to sample the earth's mantle beneath the sea. Gass explains why this project was not successful in dating ocean floor rocks.	But it's a.... 551.46083
2			Gass explains how the measurement of magnetic anomalies along the ocean floor and of terrestrial lava flows formed the basis for proof of the existence of continental drift. Shots of a model showing part of the mid-Atlantic Ridge and shots of an aircraft carrying out an oceanic magnetic survey. Animated film, with commentary by Ian Gass, explains the concept of magnetic reversal in the earth's magnetic field.	

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PROGRAMME SEQUENCE LIST

Continuation

Seq.	Time	Footage	Sequence List	Sound Cue
	13'24"	284	Film shots of volcanoes erupting and lava flows. Gass explains how polarity is fixed in the cooling lava. He goes on to explain how records of magnetic anomalies and polarity of terrestrial rocks can be dated thus building up a reverse polarity time scale.	...see the pattern.
	16'19"	332	Gass describes the work of Vine and Matthews at Cambridge during 1963 in correlating the reversals in magnetic field with sea floor magnetic anomalies using Hess' model of sea floor spreading. Animated film again shows Hess' model. Gass explains how sea floor spreading rate has been calculated.	Indeed, this is...
3	21'47"	415	Shots of models of mid-oceanic ridges showing the transform faults. Films of earthquakes and animated diagrams are used by Gass to explain what happens when oceanic and continental masses collide. He goes on to explain how this relates to continental drift on a global scale.	551.22
	22'49"	430	Gass sums up Credits.	