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Title : The Cell.

Contributors : M.J. Pentz
Steven Rose
S.W. Hurry.

Producer: Nat Taylor

CU S100/14
Tape No. 6LT/70129
Project No. 00520/1114
Date Recorded 11.11.70.
Form VTR
574.872
1st Tx 25.4.71.

Seq.	Time	Footage	Sequence List	Sound Cue
			Pentz introduces the unit. He asks "How does one distinguish living from non-living things? Pentz gives a definition of "life". Shots of a snowflake and a virus under magnification.	
	27"			
1/	1'36"		Shot of brain cells under microscope.	
	2'15"		Shot of salt on a vibrating rubber membrane.	
	2'53"		Pentz continues with his introduction.	The Open University
			S.W. Hurry explains and demonstrates a technique for obtaining living cells for examination under the microscope. He scrapes the inside of his mouth and places the rubbed off cells on a slide.	The first thing---- 578.6
	3'29"			
2	4'02"		The result is shown under the home kit microscope	
	5'17"		Hurry repeats the process, this time staining the cells with iodine. Stained cells are shown under the microscope.	it really circular?
3	7'00"		S.W. Hurry shows a sliced veal and egg pie. He uses this as a model to explain how one determines the shapes of living cells and organelles from a series of 2 dimensional slices.	To answer this-----
	7'48"		Hurry with pictures of mitochondria sliced in various ways to determine its shape.	
	12'12"		Hurry with a three dimensional model of a general spherical cell. He takes the model apart layer by layer to show cell organisation and shape. At the same time he compares the organelles in the model with actual organelles shown in a magnified photo.	574.8720184
	12'27"		Shot of the surface of a nucleus showing 3 dimensional detail.	

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Continuation

Seq.	Time	Footage	Sequence List	Sound Cue
3	12'54"		Pentz introduces Steven Rose.	Pieces, Prof Rose.
4	14'10"		S. Rose with a piece of liver. He discusses ways of taking cells to pieces to study the individual organelles. Rose slices the liver into small pieces and places them into a blender. This produces an homogenate of broken liver cells.	What the biochemist...
	15'55"		Film of Arun Sinah preparing a small amount of homogenate from a rat liver. He pours the suspension into a homogenising tube.	Another in suspensim.
5	17'05"		Rose explains technique of centinfugal separation of organelles with the aid of a low speed centrifuge head. He also explains how the centrifuge works.	So, the homogenate-----
	17'55"		Arun Sinah with centrifuge. The homogenate is spun at 1000g. for 10 minutes Nuclear cell fractions are separated.	574.872028
	19'38"		The remaining homogenate is placed into a high speed centrifuge and spun at 8000g. Mitochondria are spun out.	of mitochondria .
6	21'36"		Rose explains technique for purifying the sub-cellular fractions — "density gradient centrifugation." He demonstrates the process with the aid of a model. Balls of various density are dropped into a large tube containing sucrose and water. They separate according to density.	Well, we can 574.872028
	22'46"		Arun Sinah performs the density gradient process He shows the results.	layers quite clearly
	23'44"		Pentz explains why it is essential to examine the results of centrifugal separation under the electron microscope. Shot of cell membranes formed after a cell has burst.	Wherever biological cells. to contend with
7	23'55"		Credits.	