

INSTRUCTOR'S GUIDE

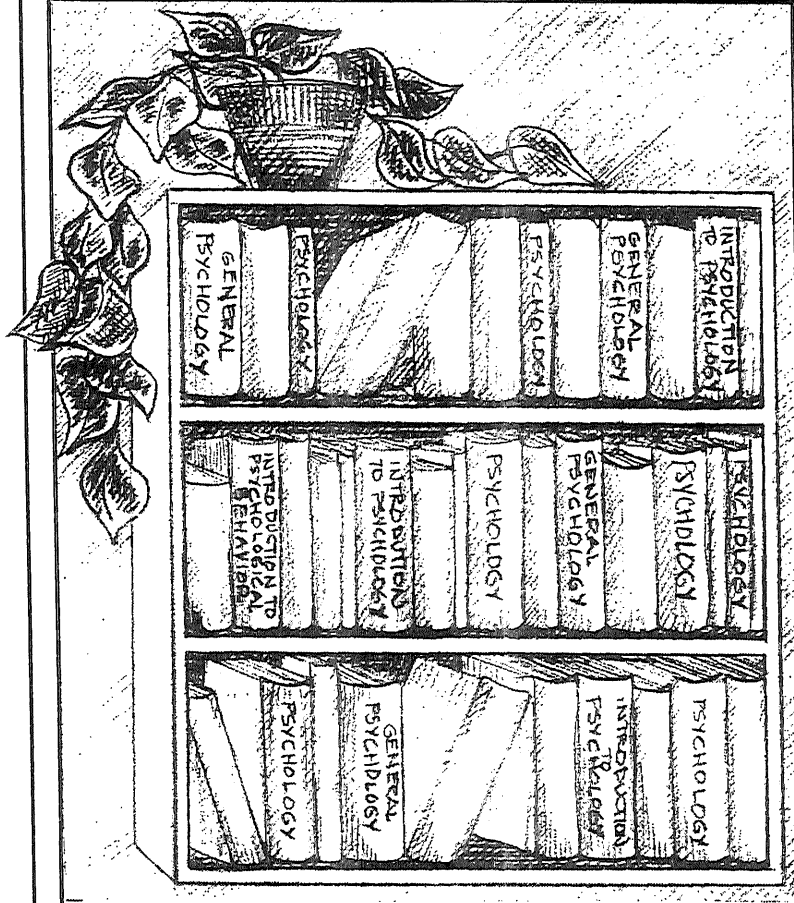
General Psychology

Video Modules-Edited From

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THE BRAIN Series

Annenberg/CPB Project



INSTRUCTOR'S GUIDE

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General Psychology

Video Modules
Edited From

THE BRAIN
Series

Funded By

Annenberg/CPB Project

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INSTRUCTOR'S GUIDE
GENERAL PSYCHOLOGY - VIDEO MODULES

Edited From THE BRAIN Series

INTRODUCTION

This instructional guide assists with the use of 30 video modules edited from the PBS series THE BRAIN, widely acclaimed as a major contribution to public education about the brain and its relation to behavior. Its eight hour-long programs explore a wide range of issues, phenomena, and questions derived from current research.

The modules edited from the full-length programs were developed to enhance the teaching of general psychology and related courses. They vary in length from approximately three to eleven minutes (average six minutes, thirty seconds). The topics articulate with the commonly presented topics in most general psychology college-level textbooks. Their brevity makes it possible to use them flexibly and at the discretion of the course instructor. Major funding for the development of these modules was provided by the Annenberg/CPB Project, in cooperation with WNET, New York.

The modules were created with the following guidelines:

- . To maintain content integrity of the larger programs, while capturing significant principles, facts, and/or theory into a meaningful, short segment video.
- . To keep the individual modules as short as possible.
- . To incorporate indentifications of all participants, with institutional affiliations (where given) in the same manner and form as the original parent programs.
- . To illustrate the most frequently presented topics in college-level, general psychology textbooks.
- . To design modules which afford maximum user flexibility, keeping in mind individual preferences.

TITLES OF ORIGINAL ONE-HOUR PROGRAMS OF THE BRAIN SERIES

I	The Enlightened Machine
II	Vision and Movement
III	Rhythms and Drives
IV	Stress and Emotion
V	Learning and Memory
VI	The Two Brains
VII	Madness
VIII	States of Mind

MODULE LISTING DERIVED FROM ORIGINAL PROGRAM SOURCE

<u>Module #</u>	<u>Time Min:Sec</u>	<u>Title</u>	<u>Program Source</u>	<u>Number of Segments Included</u>
1	4:42	Overview of Brain Organization	I	1
2	11:20	The Story of Phineas Gage	IV	3
3	7:50	Language and Speech: Broca and Wernicke's Areas	VI	2
4	7:44	Split Brain	VI	2
5	4:54	Brain Anomaly and Plasticity: Hydrocephalus	I	2
6	11:15	Brain Transplants in Parkinson's Patients	II	2
7	7:44	Alzheimer's Disease	VIII	2
8	6:35	Hormones and Sexual Development	VI	2
9	4:24	Gender Development: Social Influences	VI	1
10	3:27	Sensory-Motor Integration	II	3
11	8:45	Visual Information Processing: Elementary Concepts	II	2
12	7:12	Visual Information Processing: Perception	II	1

<u>Module #</u>	<u>Time Min:Sec</u>	<u>Title</u>	<u>Program Source</u>	<u>Number of Segments Included</u>
13	3:26	Tactile Visual Substitution	II	2
14	4:38	Perception: Inverted Vision	II	1
15	6:21	Sleep and Circadian Rhythms	III	1
16	7:10	Circadian Rhythms: Variable Work Schedules	III	1
17	9:59	REM Sleep and Dreaming	VIII	2
18	2:59	Short-Term Memory: Mnemonic Strategies	V	1
19	6:49	The Locus of Learning and Memory	V	1
20	8:00	The Hippocampus and Memory	V	2
21	7:07	Learning As Synaptic Change	V	2
22	4:18	Intelligence and Culture	VI	1
23	7:36	Sexual Preference: A Hormonal Possibility	VI	1
24	9:34	Multiple Personality	VIII	3
25	6:27	Schizophrenia	VII	3
26	6:36	Schizophrenia: Etiology	VII	2
27	6:06	Schizophrenia: Treatment and Research	VII	4
28	3:05	Stress: Locus of Control and Predictability	IV	2
29	11:31	Emotions, Stress, and Health	IV	2
30	6:28	Aggression, Violence, and The Brain	III	4

(1) Title: Overview of Brain Organization
Time: 4:42

DESCRIPTION:

This module begins with a race car driver exercising his skill in negotiating a series of turns in a highly competitive race. The scene shifts to action diagrams of the various brain areas associated with some of the behaviors involved in the execution of the race. The module illustrates several ways in which we study brain activity such as the CAT scan, PETT scan, EEG and Sensory Event Related Potential, demonstrated by its inventor, Jesse Salb.

INTERPRETIVE COMMENTS:

This module serves as a good introduction to the general external topography of the brain. The areas highlighted are the brain stem (sleeping and waking), midbrain (limbic area), visual projection area, sensory-motor strip, and frontal lobes. It is important to clarify that the areas mentioned during this demonstration are generalized areas and that more specific activities are also mediated in these areas to be demonstrated in subsequent programs. There is one place at the very end of the module where the narrator mentions the yellow and red areas in the back of the brain signifying a high level of activity during visual stimulation. It all happens so rapidly that you have to be on the alert to anticipate the colors which show up slightly before the narration. The EEG Sensory Event Related Potential is demonstrated in four other subsequent modules -- Visual Information Processing; Perception; Sleep and Circadian Rhythms; and Alzheimer's Disease.

Module # 1 -- Overview of Brain Organization

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 3, pp. 93-101
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 3, pp. 56-66
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 2, pp. 56-62
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 2, pp. 33-38
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 2, pp. 30-32 Ch. 4, pp. 87-96
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 2, pp. 40-45 Ch. 3, pp. 83-84
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 2, pp. 35-41
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 2, pp. 51-61
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 2, pp. 64-76
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 3, pp. 65-75
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 4, pp. 128-132

(2) Title: The Story of Phineas Gage
Time: 11:20

DESCRIPTION:

This program departs from all the others in the series in that it is an acted version of what happened to a person whose name appears in virtually every general psychology textbook; Phineas Gage. The story of this classic event in the annals of medical history, is portrayed by a group of young actors reenacting the tragic accident which ultimately destroyed Phineas' capacity to function normally. Upon having a tamping rod blown through his frontal lobe, entering from his cheek, Phineas is taken by wagon back to town. Along the route, the narrator is describing what happens during this type of trauma.

The long trip back to town is interrupted by several diagrammatic descriptions of the limbic system separated from the frontal lobe. Also there is an account of the role of substance P, endorphins, neurotransmitter action, and the incredible ability for pain blockage immediately following trauma.

When Gage finally arrives in town, he is taken to the local physician who attends to cleaning out his wound. In removing bone fragments the doctor actually touches the finger of his left hand with a finger on his right hand, both fingers entering the brain from opposite ends of the wound.

The most salient aspect of this short story is that Phineas Gage recovers from the tragic accident, but more physically than mentally. His inability to control emotions and to focus his attention are dramatically portrayed.

The module ends with a view of the actual skull of Phineas Gage along with the tamping rod currently on display at the Warren Museum at Harvard University.

INTERPRETIVE COMMENTS:

Although this is a recreated version of what happened to Phineas Gage, it serves to illustrate the historic event which provided the first real evidence of how brain injury can effect human behavior. In the process of telling the story, some very good action diagrams are presented showing how the rod apparently passed through Phineas' skull and how, in effect, a frontal lobotomy had been performed. It touches upon the perception of pain, endorphins, substance P, and neuro transmission in general. It provides for a discussion of the operation known as pre-frontal lobotomy, commonly practiced prior to the advent of drug therapy.

Module # 2 -- The Story of Phineas Gage

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 3, pp. 101-102
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 3, pp. 60-62; 65 Ch. 2, p. 37
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 2, pp. 54-64
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 2, pp. 26-47 Ch. 11, pp. 390-396
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 4, p. 108 Ch. 2, pp. 24-49
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 2, p. 43 Ch. 14, p. 564
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 2, p. 42
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 2, pp. 51-60
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 2, p. 47
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 3, pp. 65-81 Ch. 10, pp. 264-265
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 4, p. 136

(3) Title: Language and Speech: Broca and Wernicke's Areas
Time: 7:50

DESCRIPTION:

The opening scene presents an action visual of the brain focusing on the left hemisphere. The narrator describes the special left hemisphere function associated with language and speech.

The classic case of Paul Broca's patient named "Ta" is reviewed with an actual picture of Ta's brain discovered in a Paris museum. The brain is shown undergoing CAT scan analysis. On the left side of Ta's brain we see a large area representing damage.

The visual shifts to a patient, Charles Landry, who suffered a stroke in his left hemisphere. Mr. Landry is interviewed by Dr. Norman Geschwind, Harvard Medical School, who describes language difficulty associated with damage to the left hemisphere. Dr. Geschwind interviews Mr. Landry and describes part of Mr. Landry's language difficulty by means of a diagrammatic view of auditory processing. Through this technique, Geschwind shows the subtlety of language disorder after brain damage.

Carl Wernicke's area is presented in terms of its importance in language comprehension. An action diagram shows how language is processed through Wernicke's area to Broca's area and then on to the motor area where speech is executed.

INTERPRETIVE COMMENTS:

This module has several outstanding segments. The CAT scan of Ta's brain is dramatic. To expose a preserved brain to analysis and corroborate Broca's early finding is elegant. This is outstanding from both an historical and functional perspective.

Wernicke's area is described as a "third" area involved in speech. Broca's is shown first, the motor strip is described as the second area, and finally Wernicke's area. Look carefully when the motor area is shown. The color is rather obscure compared to the other two areas which appear much darker.

It is important to reiterate what the narrator says about Mr. Landry's difficulty not falling neatly into either Broca's or Wernicke's area. Mr. Landry's stroke illustrates the point that language is not one thing processed in one place, but is the interaction of several systems, each of which may be disrupted with localized damage as shown by Mr. Landry's grammar loss.

Module # 3 -- Language and Speech: Broca and Wernicke's Areas

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 3, p. 100; 101
Dennis Coon <u>Introduction to Psychology</u> <u>Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 3, p. 61; 62
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 2, pp. 64-65 Ch. 8, pp. 255-289
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 2, p. 40 Ch. 9, p. 327
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 4, pp. 93-94 Ch. 15, p. 405
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 7, pp. 262-270 Ch. 2, p. 43, 47, 49, 52
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 2, 42-43
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 2, pp. 61-63
John W. Santrock <u>Psychology: The Science of</u> <u>Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 7, pp. 230-231
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 3, p. 76 Ch. 7, pp. 193-199
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 10, pp. 368-371 Ch. 3, pp. 72-76

(4) Title: Split Brain
Time: 7:44

DESCRIPTION:

The specialized function of the two cerebral hemispheres is reviewed with appropriate action graphics. Asymmetry of the two halves of the brain is described in terms of hemispheric dominance. Cross-over, opposite-side, neural connections are diagrammed. The corpus callosum and its communicative function between the two hemispheres is illustrated.

Split brain surgery is described as a means of arresting some forms of advanced epilepsy. Vicki is a split brain patient who describes her post-operative condition. She is tested at the Cornell Medical Center by Dr. Michael Gazzaniga.

Vicki is asked to focus on a dot in the center of a screen. Visual pictures of words are flashed on either or both sides of the point of focus. When asked to respond verbally or in writing, Vicki demonstrates hemispheric specialization. Dr. Gazzaniga describes Vicki's responses, and action diagrams trace the stimulus input to the respective sides of her brain. These demonstrations and diagrams show the verbal dominance of the left hemisphere.

INTERPRETIVE COMMENTS:

This module vividly presents hemispheric dominance and specialization in the split brain patient. The visual cross-over pathways at the optic chiasm are clearly presented. It is important to emphasize how each hemiretina functions when looking either right or left of center. This illustration clearly places the visual image on either the right or left visual area.

When Vicki is asked to describe (verbal) a picture of a woman on the telephone presented to her right hemisphere, she demonstrates confusion. She is then asked to close her eyes and write what she saw with her left hand. This task required her to use her right motor cortex, and therefore she was able to write the word "telephone," but she was not able to describe what the woman in the picture was doing until she saw what she had written and read the word "telephone" (speaking with her left hemisphere). It would be helpful to play this segment back a second time to help students understand the special functions of speaking (left hemisphere) and writing with left hand (right hemisphere).

Module # 4 -- Split Brain

Textbooks

Chapter/Pages

Douglas A. Bernstein
Edward J. Roy, Thomas Srull,
and Christopher D. Wickens
Psychology, 1st Ed., (1988)
Houghton Mifflin Company

Ch. 3, pp. 102-105

Dennis Coon
Introduction to Psychology
Explanation and Application
4th Ed., (1986)--West Publ.

Ch. 3, pp. 56-59; 60

John M. Darley, Sam Glucksberg
and Ronald A. Kinchla
Psychology, 4th Ed., (1988)
Prentice Hall

Ch. 2, pp. 66-67

Henry Gleitman
Psychology, 2nd Ed., (1986)
W.W. Norton Co.

Ch. 2, pp. 41-44

James V. McConnell
Understanding Human Behavior
5th Ed., (1986)
Holt, Rinehart, & Winston

Ch. 2, pp. 41-48

Charles G. Morris
Psychology: An Introduction
6th ed., (1988)--Prentice Hall

Ch. 2, pp. 45-50
Ch. 3, p. 84

David G. Myers
Psychology, 2nd Ed., (1989)
Worth Publishers

Ch. 2, 43-48

Henry C. Roediger III.,
J. Philippe Rushton,
Elizabeth D. Capaldi &
Scott G. Paris Psychology, 2nd
Ed., (1987) Little, Brown & Co

Ch. 2, pp. 63-67
Ch. 5, pp. 170-172

John W. Santrock
Psychology: The Science of
Mind and Behavior, 2nd Ed.,
(1986)--Wm. C. Brown Publ.

Ch. 2, pp. 71-75

Camille B. Wortman and
Elizabeth F. Loftus
Psychology, 3rd Ed., (1988)
Alfred A. Knopf, Inc.

Ch. 3, pp. 76-80

Philip Zimbardo
Psychology and Life, 12th Ed.,
(1985)--Scott, Foresman & Co.

Ch. 7, pp. 234-237

(5) Title: Brain Anomaly and Plasticity: Hydrocephalus
Time: 4:54

DESCRIPTION:

Dr. John Lorber, University of Sheffield, England, compares the brain of a normal child with that of a hydrocephalic to illustrate the enormous difference in the size of the ventricles. The hydrocephalic brain is vastly deprived of area devoted to brain tissue. A technique for draining excess fluid from the brain is briefly mentioned. The main point presented here is that with large deficits in brain tissue, compared to the normal brain, patients like Sharon can lead normal lives with average to above average ability in intellectual functioning. Sharon's parents describe her condition and the program shows Sharon undergoing both a CAT scan and cerebral blood flow scan. These two measurements reveal a severely distorted brain and the fact that activity in Sharon's brain is focused mostly in her visual area. This is compared to normal brain activities where tasks are distributed more evenly throughout the brain. These differences are interpreted in terms of brain plasticity. Sharon's explanation involves her motivation to perform beyond others' expectations.

INTERPRETIVE COMMENTS:

The emphasis here is on plasticity more than hydrocephalus. Two points require further clarification and explanation. The first is that brain injury which occurs early in life is different from brain injury experienced after maturity. This distinction is important to emphasize to students. The second point requiring clarification is that, although distorted, Sharon's brain does have a cortex which is essential to normal human behavior.

A good module to illustrate how our brains can recover from enormous injury early in life.

(6) Title: Brain Transplants in Parkinson's Patients
Time: 11:15

DESCRIPTION:

Comedian Terry Thomas describes his reactions to Parkinson's disease. Dr. David Marsden, Kings College Hospital Medical Center describes the symptoms of Parkinson's patients and the basic mechanisms affected by this disease. A moving diagram of neurotransmitter action between several synapses identifies the chemical Dopamine as the substance lacking in this disease. Substantia nigra cells located in the basal ganglia normally produce dopamine. Various treatments for the disease involve L-dopa, a chemical which provides some temporary relief but which also has undesirable side effects.

Dr. Lars Olson at the Karolinska Institute, Stockholm, describes his pioneering research on animals, whereby he developed a technique for transplanting embryonic cell tissue into the basal ganglia of adult animals. These transplanted brain cells were not rejected. He then describes how, after ten years of research, he transplanted cells from the adrenal gland. These cells manufacture dopamine and essentially work in the same way as the embryonic tissue transplants. The stage is set for exploring the possibility of performing such an operation on severely advanced Parkinson's patients. Two such operations are detailed where the beneficial effects are described as meager. Dr. Olson discusses the future of such brain transplants and his hope for their success in treating this dreadful disease.

INTERPRETIVE COMMENTS:

This sequence of historical events is very significant from several standpoints. First it clearly demonstrates the beneficial effects of animal research as a means of promoting advances in human medicine. Secondly, this area of inquiry has opened up new controversy in biological ethics. Recent operations on humans in Mexico have revealed that human fetal transplants are commonplace as a means of arresting and, hopefully, curing Parkinson's disease. These operations are very controversial. They open up discussion of possibly promoting the commercialization and sale of fetal organs where babies are produced simply for their replacement parts. For a more recent discussion of these issues see: Lewin, R (1987). Brain grafts benefit Parkinson's patients. Science, 236, 149; Dramatic results with brain grafts, Science, 237, 245-247. Also McDonald, Kim (1988) Mending the Brain. Psychology Today. Vol 22, No. 7/8, July/August, 1988.

Module # 6 -- Brain Transplants in Parkinson's Patients

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 3, pp. 113-114 Ch. 3, p. 107-108
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 3, p. 53
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 2, p. 55
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 20, p. 692 Ch. 1, pp. 1-2
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 2, pp. 30-38 Ch. 4, pp. 109-110
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 2, pp. 67-68
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 2 p. 50
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 2, pp. 47
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 2, pp. 64-76
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 3, pp. 80-81; 62
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 4, p. 118; 106

(7) Title: Alzheimer's Disease
Time: 7:44

DESCRIPTION:

Eleanor is fifty one. She suffers from early stages of Alzheimer's disease. She is seen here leading a church choir. She briefly describes her forgetfulness and how she feels about it.

Dr. Barry Gordon, Johns Hopkins University School of Medicine, describes her condition. He gives an account of how Eleanor is able to compensate for her forgetfulness by employing certain strategies to cover up her impairment.

An action diagram presents a picture of the human brain showing the area at the base of the brain stem called the nucleus basalis, where the problem arises. The nucleus basalis is the point at which the excitatory neurotransmitter acetylcholine is generated for release to other distant parts of the cortex. In Alzheimer's disease this site slowly deteriorates, effecting the release of this important chemical. The result is neuronal atrophy.

Dr. Gordon reviews the disease by describing the most common symptoms of forgetting, but mentions others such as speech recognition and attention. The symptoms are mysteriously selective, as revealed by Eleanor's husband. He states that, although she had difficulty remembering what she just read, she has no problem in sight reading music for the piano. Apparently some functions are better preserved than others.

In characterizing the disease Dr. Gordon mentions that some of the impairments present in Alzheimer's patients are also present in those who do not have the disorder. Things like poor attention, lack of concentration and finding the right words to describe something are by themselves not uncommon. What is unique about Alzheimer's disease, is these symptoms occur late in life and appear as a change from what is normal for a person. They get progressively worse with time.

Eleanor is seen in a testing situation where Dr. Gordon asks her to reproduce a geometric pattern using block forms. She has some difficulty replicating some of the patterns and is getting progressively worse from previous tests conducted a year earlier. Even when she recognizes discrepancies between what she is suppose to reproduce and what she sees as a pattern, her strategies for solving these block design problems suffer impairment. Her difficulty is compared to other disorders involving frontal lobe function.

A PET scan is shown comparing the brain of a normal person to an Alzheimer's patient. They are dramatically different, especially in the area of frontal lobe activity. Another comparison is made using the sensory-event-related potential employing and auditory signal. Once again the difference is dramatic. The Alzheimer patient's frontal lobe function is absent during the "awareness" stage of the auditory stimulus.

During questioning about her family, Eleanor becomes confused about how many children she has. The narrator ends the program with conjecture about possible cures through tissue transplants in the nucleus basalis.

INTERPRETIVE COMMENTS:

A very nice succinct presentation on a disease which is receiving a great deal of attention recently. Dr. Gordon emphasizes that the disease occurs later in life, is progressive, and represents a change in the individual's behavior from what was normal for that person. These characteristics are worth repeating in order to avoid confusion with other pseudo symptoms of the disease. Recent research has identified Chromosome #21 as a possible site for the disease. (See Brain, Mind, and Behavior, 2nd edition, 1988. pp. 323-324. W. H. Freeman and Company, New York.)

Module # 7 -- Alzheimer's Disease

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 3, p. 106, 109 Ch. 13, p. 492
Dennis Coon <u>Introduction to Psychology</u> <u>Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 21, p. 507
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 18, pp. 616-617 Ch. 7, p. 231
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 7, p. 256 Ch. 16, pp. 567-568 Ch. 19, p. 683
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 15, p. 404 Ch. 19, p. 537
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 2, pp. 36-37; 46 Ch. 2, p. 67, 68 Ch. 6, p. 237 Ch. 10, p. 401
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 4, p. 101
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 2, p. 45 Ch. 10, pp. 384-392
John W. Santrock <u>Psychology: The Science of</u> <u>Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 10, pp. 348-350
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 3, pp. 80, 81, 62, 73
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 4, p. 106 Ch. 3, pp. 99-101

(8) Title: Hormones and Sexual Development
Time: 6:35

DESCRIPTION:

The narration at the beginning of this program cites some statistical differences between males and females in terms of hand preference and other subtle sensory capacities.

Dr. Normal Geschwind, Harvard Medical School, describes statistical differences between the sexes as groups in terms of verbal (female) compared to visual/spatial (males).

Some comparisons are made between left-hand/right-hand individuals and the possibility of these differences being influenced by the hormone testosterone. In utero photography shows a fetus moving in a random fashion as the narrator discusses the possibility of hormonal differences related to hand preference.

Dr. Marion Diamond, University of California, Berkeley, is shown in her laboratory working with rat brains. She is seen freezing and slicing sections of rat brain cortex where structural differences have been found between males and females - males having larger right hemispheres, females larger left hemispheres. Dr. Diamond describes how these differences can be reversed by removing the ovaries and testes of newly born rats and reversing right-left hemisphere differences.

Dr. Diamond describes another experiment comparing different environments and their effect on brain development. In this experiment she has found that enriched environments produce brain growth; impoverished environments retard brain growth. These changes have different effects in male rats from those in female rats. She describes these differences. Her conclusions are summarized in terms of size of brain growth and sex differences. Dr. Diamond suggests that it is possible to extrapolate from rats to man. The program ends with the statement that no one has identified differences in the anatomy of the human brain with such precision.

INTERPRETIVE COMMENTS:

The module presents some rather startling findings which address an important topic of gender differences. Through both the narration and the visualization, the viewer is presented a number of significant findings. The in utero photography is stunning.

Dr. Diamond is a most impressive female role model of a scientist who is doing ground breaking research with far reaching potential. Dr. Geschwind is well known for his work on hand preference and hemispheric differences with hormonal implications.

Once again, the importance of using animals in conducting research which could not be done at the human level, is appropriately portrayed. The results of the influence of differential environments provides the possibility for discussion of the nature/nuture issue in development. This module has implications for several areas in general psychology.

Module # 8 -- Hormones and Sexual Development

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 11, pp. 422-424
Dennis Coon <u>Introduction to Psychology</u> <u>Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 24, pp. 568-571 Ch. 3, pp. 66-68
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 11, pp. 382-383
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 10, p. 350 Ch. 13, pp. 459-460
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 11, pp. 297-299
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 9, pp. 340-342 Ch. 11, p. 422
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 5, pp. 118-120
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 10, pp. 360-364 Ch. 12, p. 448
John W. Santrock <u>Psychology: The Science of</u> <u>Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 11, p. 377 Ch. 9, pp. 283-285
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 9, p. 246 Ch. 11, pp. 298-299
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 4, p. 126 Ch. 11, p. 390

(9) Title: Gender Development: Social Influences
Time: 3:24

DESCRIPTION:

Dr. Caroline Smith, University of Sussex, is shown in her laboratory where she is studying the differences between mothers' reactions to girls and to boys. The entire program is narrated with voice-over action.

Dr. Smith offers a baby boy to a mother as she observes the mother's reaction to the child. The mother hands the boy a hammer and allows the child to explore his environment as she places him on the floor.

The boy is now dressed up like a girl and offered to another mother as Jane. The mother talks more to the child and offers the child a doll. She tells the child she is pretty. She does not place the child on the floor nor allows exploration.

The narrator states that we talk more to girls and encourage them to be less active than boys. Dr. Smith presents evidence that we indeed do treat boys and girls differently. We offer them different experiences, encourage different abilities. The question remains, however, whether the different characteristics of males and females are mainly the result of experience.

The scene shifts to a male chef in a kitchen preparing a special sauce. The narrator points out that, although we may treat girls and boys differently, individual differences exist in the expression of our behaviors despite varying environmental influences.

INTERPRETIVE COMMENTS:

This is an excellent module which clearly demonstrates how we treat children as a function of their sex. The examples are clear and vivid. The point made here is cleverly presented and very convincing for what we already know to be the case. Good discussion topic for gender identity, role, and typing.

Module # 9 -- Gender Development: Social Influences

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 11, p. 424 Ch. 17, pp. 648-652 Ch. 4, p. 118
Dennis Coon <u>Introduction to Psychology</u> <u>Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 24, pp. 571-572
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 13, pp. 429-447
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 16, pp. 552-556
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 11, p. 304-306
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 9, pp. 365-367
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 5, pp. 121-128
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 9, pp. 350-352
John W. Santrock <u>Psychology: The Science of</u> <u>Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 9, pp. 312-314
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 9, pp. 245-248
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 3, pp. 85-87

(10) Title: Sensory-Motor Integration
Time: 3:27

DESCRIPTION:

Olympic Gold Medalist, Greg Louganis, performs three spectacular dives off the ten meter board. Among these is the reverse one-and-a-half with three-and-a-half turns. These dives illustrate the elegance of which the human body is capable. The program shows Greg's total attention and concentration just prior to his dives. The narration refers to the visual and motor coordination involved in the execution of the perfect "10" performance. It describes the involvement of the motor cortex, cerebellum and basal ganglia. Mention is made of the extensive practice which "wires in" the performance as a reflex for someone of Greg's ability and talent.

INTERPRETIVE COMMENTS:

This module provides an opportunity to give greater emphasis to some of the "other senses" in addition to vision, motor cortex, basal ganglia. Mention of kinesthesia, vestibular apparatus and even cutaneous sensitivity would help illustrate how highly sophisticated motor performance is a function of all our senses, combined in a coordinated fashion.

A good example of sensory-motor learning and how natural talent, combined with sufficient coaching and practice, work together to realize perfection.

Module # 10 -- Sensory-Motor Integration

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 3, pp. 98-99 Ch. 4, pp. 118-124
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 3, pp. 60-61
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 2, pp. 62-64
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 2, pp. 36-38
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 2, pp. 30-31 Ch. 4, p. 95
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 2, pp. 41-45
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 6, pp. 139
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 2, pp. 57-60
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 2, pp. 69-70
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 3, pp. 75
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 4, pp. 132-133

(11) Title: Visual Information Processing: Elementary Concepts .
Time: 8:45

DESCRIPTION:

This program begins with a brief review of the visual pathway from the eye, through the conductive mechanisms, to the primary striate cortex in the occipital lobe. The work of Dr. Russell DeValois at the University of California, Berkeley, is presented. Dr. DeValois shows an autoradiograph X-ray picture of a visual pattern which was projected on to the visual cortex of a monkey and which revealed rather remarkable pattern precision from the object presented to the visual mechanism. Drs. David Hubel and Torsten Wiesel from Harvard Medical School, are introduced as pioneers in the visual mapping of the striate cortex of an anesthetized cat. They are shown in the laboratory explaining how they serendipitously discovered that individual cells in the cat brain responded to a line created by the edge of the glass slide which contained a black dot. They go on to describe how lines of different length elicit responses from specific cells but do not respond to movement in two directions. They appear to be selective in terms of length and direction. These "feature detectors" presumably overlap into contours and gradations of shadow and texture to form object recognition. There is a brief comparison between the interpretations of DeValois and Hubel and Weisel.

INTERPRETIVE COMMENTS:

This work is important because it represents some of the pioneering research in the quest for knowledge about how our visual system transmits and encodes visual information. From sharp lines to textured contours, this work represents basic knowledge of what we now understand to be feature detectors. A recent popular article appearing in U.S. News and World Report, June 27, 1988 describes research at the University of California Irvine, and the IBM Thomas J. Watson Research Center in Yorktown Heights, N.Y. Using computer brain imaging models, investigators are building upon the earlier work of DeVlois, Hubel and Weisel to investigate how the various sensory neurons process information. A subsequent module in this series on perception takes up other visual areas involved in perception -- Visual Information Processing: Perception.

Module # 11 -- Visual Information Processing: Elementary Concepts

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 4, pp. 131-147
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 4, pp. 80-86
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 3, pp. 96-107
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 5, pp. 156-173
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 7, pp. 172-178
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 3, pp. 77-90 Ch. 3, pp. 101-103
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 6 pp. 146-149
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 3, pp. 86-95
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 3, pp. 89-92
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 4, pp. 89-96
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 5, pp. 150-154

(12) Title: Visual Information Processing: Perception
Time: 7:12

DESCRIPTION:

This module concentrates on higher visual areas beyond the striate cortex. An opening scene showing black dots on a white background emerges into a moving Dalmation dog (figure-ground). The narrator poses the question, "When does seeing become perception, and where does all this take place."

Dr. Mortimer Mishkin, National Institute of Mental Health, describes two higher visual pathways emanating from the striate cortex. One path moves up to the parietal lobe and communicates information about where things are located. The other path moves down to the inferior temporal lobe and helps explain what things are. Dr. Mishkin talks about specific cells in this region which are likened to "grandmother cells" described back in the 1950's. Some excellent visuals are presented demonstrating that in the monkey's inferior temporal lobe individual cells fire when presented with an intact image of another monkey's face. When the face is distorted, the cells do not fire. This phenomenon is related to other cells called "cumulative cells" which assist in the recognition of individual faces and other objects. Dr. Mishkin describes this area as a special purpose visual system. Damage to this region in humans can result in loss of facial recognition.

INTERPRETIVE COMMENTS:

This program has a lot of good material tightly packed into six and one-half minutes. The main point to be communicated is that visual perception is the end result of a complex set of component brain processes mediated at different levels in the brain. The narration and visual reinforcements set the stage for discussing perception and its related components. It also provides a basis for understanding what might be taking place in certain forms of brain injury deficit.

Module # 12 -- Visual Information Processing: Perception

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 5, pp. 177-183
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 5, pp. 108-126
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 4, pp. 132-142
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 6, pp. 186-193
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 8, pp. 197, 215-216
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 3, pp. 114-118 Ch. 3, pp. 101-103
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 6 pp. 149-151
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 4, pp. 126-142
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 3, pp. 110-113
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 4, pp. 93; 89-96
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 6, pp. 186-188

(13) Title: Tactile Visual Substitution
Time: 3:26

DESCRIPTION:

In this module we see Dr. Gerard Guarnerio, blind from birth, experiencing a form of "visual substitution." Employing specially designed apparatus at the Smith Kettlewell Institute of Visual Science in San Francisco, Dr. Guarneiro is able to acquire a "visual experience" through the skin on his back. Through a special feature television camera connected to a series of blunt pins, the outlines of objects can be transmitted to the back of a chair containing vibrating pins. When Dr. Guarnerio points the television camera toward an object he is able to describe the object. His description is interesting. He says, for instance, that all of his life he has learned much about his environment through touch. But through the tactile visual substitution system, he is able to perceive objects from a distance. The most significant aspect of his description reveals that after some practice, . . . "objects no longer appear to be on his skin anymore."

INTERPRETIVE COMMENTS:

This demonstration is certainly one which will elicit interest among viewers. It is particularly important to communicate that Gerard Guarnerio isn't actually "seeing" in the same sense as those with normal vision. He is certainly recognizing objects from a distance using his cutaneous sensitizing on the lower part of his back. But the demonstration does not establish that his visual area in the occipital lobe is firing. It is, however, interesting to contemplate the possibility that somewhere in his brain he is receiving information from his "distant" world about objects which are apparently connected to his cutaneous and tactile memory. He may be simply making new connections from one cutaneous, tactile system to another location. Relatively recent research suggests that intersensory links may provide the basis of hooking up sights, sounds and touches from early on. Studies by Elizabeth Spelki, Cognitive Psychology, 8, (1975), 553-560 and Barbara Dodd, Cognitive Psychology, 11, (1979), 478-484 speak specifically to cross modality encoding.

The demonstration is interesting and will stimulate lively discussion about where we "see" objects.

Module # 13 -- Tactile Visual Substitution

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 4, p. 150
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 4, pp. 96-98
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 3, pp. 111-114
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 5, p. 148 Ch. 5, pp. 156-173
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 6, pp. 142-146 Ch. 7, pp. 179-181 Ch. 8, p. 217
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 3, p. 125 Ch. 3, pp. 101-103
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 6 p. 158
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 3, p. 110 Ch. 4, p. 150 Ch. 3, p. 82
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 3, pp. 89-97; 102
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 4, pp. 101
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 5, p. 176

(14) Title: Perception: Inverted Vision
Time: 4:38

DESCRIPTION:

Susannah Fine, a London art student, volunteers for a study on the effects of wearing specially designed lenses which invert her visual world. The viewer gains a sense of what it would be like to live in an upside down world when the camera photographs a few scenes through the inverted lenses. The viewer sees what Susannah Fine experiences when she tries to pour liquid from a container into a cup. The "experiment" is conducted during the course of an entire week. Midway through the study, Susannah is asked to write her name without looking at her hand. She writes some letters right side up and some upside down. When she is able to look at her hands, she can write her name correctly, but it is upside down. On the last day of the study she is able to demonstrate drawing flowers, writing her name so that it appears right side up, and she rides a bicycle on a road through a dark tunnel. The camera captures the view through the lenses as she is riding the bicycle. When Susannah removes the lenses she is once again disoriented, but within one hour she readapts to her "normal" visual world.

INTERPRETIVE COMMENTS:

This demonstration is both interesting and can be somewhat confusing to the student. The narration is accurate in describing what is taking place, but, when considering what is actually happening, it is important to emphasize that Susannah is learning how to readapt to a world which visually is upside down. However, in terms of her proprioceptive, kinesthetic, and auditory sense, things are unchanged. What is happening during the adaptation process is that Susannah is learning to connect a new upside down version of her world to her long established right side up proprioceptive-kinesthetic and auditory world. A review of the visual mechanism and how the lens inverts objects, due to its curvature, would be helpful in explaining inverted images and how they get reversed.

An excellent module to introduce the empiricist/nativist question, and the remarkable plasticity of the nervous system to adapt to new and changing conditions in the visual world. It is also interesting to note that it only took one hour for Susannah to readapt to the "normal" world, whereas it took an entire week to manage the initial partial adjustment.

Module # 14 -- Perception: Inverted Vision

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 5, pp. 177-183; pp. 186-191
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 5, p. 120
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 4, pp. 121-136
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 6, p. 200
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 8, pp. 193-214 Ch. 7, pp. 179-181 Ch. 8, p. 217
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 3, pp. 105-122 Ch. 3, pp. 101-103
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 7 pp. 181-182
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 4, pp. 152-153
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 3, pp. 107-115
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 4, pp. 104-115
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 6, pp. 184-212 Ch. 5, pp. 164-165

(15) Title: Sleep and Circadian Rhythms
Time: 6:21

DESCRIPTION:

The module begins with a beautiful scene of life in the natural environment with a narration about living creatures and their biological ties to seasons and cycles with inherent internal rhythms. This leads into a discussion of rhythms and sleep. A subject is seen during normal sleep where there is a close up shot of REM sleep. The statement is made that during a normal night's sleep this cycle of REM, sleeping, and dreaming occurs every 90 minutes. Five hours of a normal night's sleep are compressed into a 20 second segment of a computer image of brain electrical activity. The 90 minute cycles appear as waves coming up on shore and then receding. This is attractively presented as one of Jesse Salb's Sensory-Event Related Potentials with different colors representing various phases of the sleep cycle.

The remainder of the module is devoted to an experiment which was conducted by Michel Siffre, a French cave explorer. Mr. Siffre describes what it is like living underground in a Texas cave for 7 months. During this period Mr. Siffre was "on his own" in terms of time cues. He had no idea of the time of day, week, or month. He had no artificial sound cues. He simply lived a life in accord with his natural built in biological rhythms. During the entire 7 months period he kept careful records of everything he did. Physiological data were recorded by a surface support team. Such things as sleeping/waking, blood pressure, body temperature, brain waves, performance skills, heart rate and eating behaviors were carefully monitored. The conclusion reached from all of this was that, although we all live on a routine 24 hour clock of our own creation, nature provides us with a 25 hour internal clock. Michel Siffre's days were actually 25 hour days. Each day, therefore, we have the natural tendency to add an hour to our manufactured 24 hour clock.

INTERPRETIVE COMMENTS:

This experiment was conducted with an N of one. Other studies of a similar nature uncover the same phenomenon. Sleep is intrinsically interesting to most students of psychology. This program informs the viewer on some of the observations we make about ourselves in terms of living in a society so geared to rigid time constraints. With the advent of transcontinental travel it becomes apparent that external clocks are not always in sync with our internal circadian rhythms. Another module in this series (Circadian Rhythms: Variable Work Schedules) builds upon this module.

Module # 15 -- Sleep and Circadian Rhythms

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 6, pp. 213-217
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 7, pp. 162-167
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 5, pp. 159-161
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 3, pp. 75-78
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 3, pp. 56-59
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 4, pp. 136-144
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 8 p. 197-202
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 5, pp. 173-174
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 4, pp. 124-126
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 12, pp. 317-318; pp. 315-324
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 7, pp. 239-240

(16) Title: Circadian Rhythms: Variable Work Schedules
Time: 7:10

DESCRIPTION:

The single subject of this program involves variable work schedules. Dr. Charles Czeisler, Harvard Medical School narrates most of the content. A review of recent trends in the work force indicates that almost 20% of the population in industrialized nations employ variable work schedules. Because our internal rhythms function more on a 25 hour period (see Module on Sleep and Circadian Rhythms), care must be taken in rearranging shift workers to take into account what we now know about circadian rhythms.

An experiment was conducted at the Great Salt Lake Minerals and Chemicals Corporation in the Utah Salt Flats. A research team headed by Dr. Charles Czeisler studied 130 workers who routinely rotate work schedules. Instead of rotating from day shift to night shift, to evening shift at the end of each week, schedules were changed so that workers maintained a particular shift for three weeks at a time. This schedule was much more in tune with the brain's "natural" 25 hour rhythm. After evaluating this three-week changeover, workers were much happier with their jobs, were more productive, and felt better physically. They were also taught something about the biology of their built-in time clocks. Dr. Czeisler summarizes what was learned in the Utah Salt Flats through this experiment and relates it to industrial application involving those who find themselves in similar situations.

INTERPRETIVE COMMENTS:

This program is an excellent example of an industrial application applied from laboratory investigation. If the student has seen the module on Sleep and Circadian Rhythms, it will immediately become apparent how our knowledge about biological clocks can be applied to serve both the needs of the individual and the work place.

Many college students find themselves keeping unusual hours as part of their variable work schedules. Knowledge about our internal clocks may be used to assist them in better understanding how they can maximize their work and study efforts. [Note: In the very first part of the program, Dr. Czeisler introduces variable work schedules in a sequence from day shift to night shift to evening shift, rotating each week. The new schedule has the workers rotating shifts from day shift, to evening shift, to night shift every three weeks.]

Module # 16 -- Circadian Rhythms: Variable Work Schedules

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 6, pp. 216-217
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 7, pp. 163-165
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 5, pp. 161-164
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 3, pp. 73-78
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 3, pp. 56-57 Ch. 3, pp. 63-64
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 4, p. 137
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 8 pp. 197
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 5, pp. 173-174
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 4, pp. 125
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 12, pp. 317-318;
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 7, pp. 239-240

(17) Title: REM Sleep and Dreaming
Time: 9:59

DESCRIPTION:

The program opens with a commentary about the biological necessity for sleep and the fact that we all dream at some time or other. Dr. J. Allan Hobson, Harvard Medical School, comments on the function of dreams. He makes the statement that dreaming is an inherent brain process which must include the notion that the brain is doing something for its own sake -- certainly a different interpretation from a classical Freudian view.

The scene then shifts to the study of sleeping and dreaming and how we measure these phenomena. The narrator cites the early 1950's as a period when researchers began the systematic study of sleeping and dreaming. The rapid eye movement (REM) discovery has led to a number of interpretations about the functions of dreaming.

Dr. Jason Birnholtz, Rush Presbyterian, St. Luke's Medical Center, Chicago, has developed a new technology in ultra sound recording showing that a young fetus four months old also displays rapid eye movements. He is seen here talking to an expectant mother as they both view a television screen showing her in utero fetus in sufficient detail to clearly identify rapid eye movements and other facial features. Dr. Birnholtz discusses the progression of development as viewed through this new technology. The question is raised as to what function, if any, REMs have in a fetus and whether the close relationship between what is apparently a similar behavior of the fetus to the adult has any significance. Could the REMs in a fetus represent some similarity to adult dreaming? We don't know.

Sleeping and dreaming are related to chemical changes in the brain associated with specific anatomical features. A diagram of the brain stem and limbic system is shown as Dr. J. Allan Hobson describes a theory which he has worked out to account for dreaming. His theory involves a switching mechanism in the pons which is connected to the visual and motor areas of the brain. When the brain generates its own activity, resulting in dreams, the switch located in the pons turns off the bodily responses to the dream which controls motor movement. This all occurs with frontal lobe involvement.

Dr. Hobson looks at dreams as expressions of creativity. The module ends with an account of Friedrich August Kekule's discovery of the benzene ring, appearing to him in a dream after many months of speculation about how the hydrogen and carbon atoms were arranged to form the compound.

INTERPRETIVE COMMENTS:

An excellent example of ultra sound technology used to study development of the fetus. The relationship between REM in the fetus and REM in humans of all ages presents an interesting opportunity for a discussion on what REMs tell us about levels of awareness. Hobson's view of the functions of dreams is one viewpoint which should be compared and contrasted with other views on the functions of dreams. A comparison with the psychoanalytic interpretation would be appropriate here, or perhaps deferred to a time when Freud is taken up in detail. Recent interpretations from an information processing perspective would also contribute to a more balanced view on the subject. (See Palumbo, S.R., 1978. Dreaming & Memory: A New Information Processing Model, New York: Basic Books)

Module # 17 --REM Sleep and Dreaming

Textbooks

Chapter/Pages

Douglas A. Bernstein
Edward J. Roy, Thomas Srull,
and Christopher D. Wickens
Psychology, 1st Ed., (1988)
Houghton Mifflin Company

Ch. 6, pp. 215-218, 219

Dennis Coon
Introduction to Psychology:
Explanation and Application
4th Ed., (1986)--West Publ.

Ch. 7, pp. 168-169

Ch. 7, pp. 173-175

John M. Darley, Sam Glucksberg
and Ronald A. Kinchla
Psychology, 4th Ed., (1988)
Prentice Hall

Ch. 5, pp. 161-163

Ch. 13, pp. 430-433

Henry Gleitman
Psychology, 2nd Ed., (1986)
W.W. Norton Co.

Ch. 3, pp. 76-77

Ch. 1, pp. 8-9

Ch. 13, pp. 446-449

James V. McConnell
Understanding Human Behavior
5th Ed., (1986)
Holt, Rinehart, & Winston

Ch. 3, pp. 61-63

Charles G. Morris
Psychology: An Introduction
6th ed., (1988)--Prentice Hall

Ch. 4, pp. 139-144

David G. Myers
Psychology, 2nd Ed., (1989)
Worth Publishers

Ch. 8 pp. 198-199;
pp. 202-206

Henry C. Roediger III.,
J. Philippe Rushton,
Elizabeth D. Capaldi &
Scott G. Paris Psychology, 2nd
Ed., (1987) Little, Brown & Co

Ch. 5, pp. 174-177; 180

Ch. 9, pp. 321-323

John W. Santrock
Psychology: The Science of
Mind and Behavior, 2nd Ed.,
(1986)--Wm. C. Brown Publ.

Ch. 4, pp. 122-123

Camille B. Wortman and
Elizabeth F. Loftus
Psychology, 3rd Ed., (1988)
Alfred A. Knopf, Inc.

Ch. 12, pp. 319-322;
pp. 315-324

Philip Zimbardo
Psychology and Life, 12th Ed.,
(1985)--Scott, Foresman & Co.

Ch. 7, pp. 240-241

Ch. 3, pp. 68-69

(18) Title: Short-Term Memory: Mnemonic Strategies
Time: 2:59

DESCRIPTION:

This brief module begins with a scene of a common telephone dial and a statement about the average capacity for short-term memory being around seven digits. But Trevor Emmott demonstrates that in a mere two minutes he can recall 36 digits; six rows of six numbers grouped in threes.

In moving down the row he is flawless in his recall. When he gets to the fourth row there is a pause where he relates the mental associations he used (mnemonic strategies) to assist him in recalling the numbers. He uses an association with the fourth row, a different one with the first grouping of three numbers, and another for the second grouping of three. Through this "chunking" he had reduced the task to three mental pictures, one for each chunk.

INTERPRETIVE COMMENTS:

Although Trevor Emmott's associations are novel, and a part of his mental machinery, he demonstrates what each of us has done many times when faced with the task of memorizing new information. His unusual facility for short-term memory seems related to a varied repertoire of potential images with both iconic and echoic qualities.

The classical paper by G. A. Miller on the magical number seven, plus or minus two: Some limits on our capacity for processing information, Psychological Review (1956) is perhaps worth mentioning here.

Module # 18 -- Short-Term Memory: Mnemonic Strategies

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 8, pp. 311-317
Dennis Coon <u>Introduction to Psychology</u> <u>Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 10, pp. 252-254 Ch. 10, p. 236
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 7, pp. 251-252
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 7, pp. 244-246
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 15, p. 400
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 6, p. 247; 245- 246
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 10, 263-264
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 7, pp. 261-264
John W. Santrock <u>Psychology: The Science of</u> <u>Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 6, pp. 206-208
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 6, pp. 160-163 Ch. 6, pp. 155-157
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 9, p. 314 Ch. 9, pp. 307-314

(19) Title: The Locus of Learning and Memory
Time: 6:49

DESCRIPTION:

Dr. Neal Cohen, Johns Hopkins University, introduces the topic of this program. He focuses on the study of memory with reference to classical research conducted by Dr. Karl Lashley. The narration is shared with Dr. Donald Hebb as they introduce the earlier work of Dr. Wilder Penfield. These various segments address the central question of where learning occurs and where memories are stored.

Historical scenes of Dr. Penfield's work of brain stimulation during corrective surgery are shown. Dr. Hebb discusses the interpretation of these findings and concludes, as does Dr. Neal Cohen, that learning and memory are not located in discrete places but involve many areas where processing occurs.

Dr. Gary Lynch, University of California, Irvine presents the idea that processing events into the nervous system can perhaps leave a trace in the brain which might last for years.

The program ends with an action visual of simulated chemical firing across the synapses of nerves which can be either excitatory or inhibitory in action. This process is presumably the key to learning and memory.

INTERPRETIVE COMMENTS:

When a comment is made about learning by itself, or memory by itself, it is difficult to separate the two. In this program several references are made to each interchangeably. As Dr. Cohen suggests, it is probably the site of neural processing that mediates both phenomena.

It is important to point out that in the history of psychology, and in the study of learning, the question of where the phenomenon takes place has occupied investigators for years. The issue is closer to a resolution, but much remains to be learned about the actual electrical-chemical activity and all the neurotransmitters involved.

Module # 19 -- The Locus of Learning and Memory

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 8, pp. 314-315
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 10, pp. 249-250 Ch. 4, p. 84
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 6, p. 193
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 4, pp. 87-132 Ch. 7, pp. 221-259
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 15, pp. 407-413; p. 401
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 6, pp. 250-252; 234; 237 Ch. 2, p. 37
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 10, 266-269
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 2, p. 53 Ch. 6, pp. 198-230 Ch. 7, pp. 270-273
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 6, pp. 205-206 Ch. 5, pp. 152-180
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 6, pp. 169-171
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 9, pp. 331-334

(20) Title: The Hippocampus and Memory
Time: 8:00

DESCRIPTION:

This program begins with an action diagram of a brain highlighting the limbic system. The narration over the visual refers to memories laden with emotion as being vivid ones because the areas implicated in memory function are housed in and around the amygdala and the hippocampus . . . structures of the limbic system.

Damage to the hippocampal area usually involves the potential for memory loss as is the case with Peter, a victim of brain injury in this region. Peter describes an accident which occurred shortly after a basketball game back in his college days. The recall of events prior to the accident are clear, but events subsequent to the event are fuzzy. Since that time, his ability to recall events of recent origin is impaired.

Dr. Neal Cohen, Johns Hopkins University discusses memory breakdown as a varying phenomenon, contingent upon the specific area and extent of brain damage. He indicates that the nature of memory loss can be different depending upon where the damage occurs. Different areas of the brain contribute to different memories in unique ways.

The patient, Peter, suffered damage to his hippocampus which now makes it difficult for him to lay down certain types of memories. Peter is shown pictures of famous world leaders and asked to identify them. He has some difficulty in doing so and is halting in his responses. Dr. Cohen indicates that if you were to meet Peter on the street you might not realize that he has serious impairment because he has learned to disguise his difficulty. Under controlled questioning, however, the profoundness of his problem becomes apparent.

The scene now shifts to the laboratory of Dr. Anders Bjorklund at the University of Lund, Sweden. Dr. Bjorklund demonstrates and discusses his laboratory procedures for implanting hippocampal cells from young normal rats to older rats with severely restricted abilities to remember simple locations in a water maze. Upon receiving the transplanted cells from younger rats, older rats demonstrate substantial improvement in their "memory" of recently learned events. Dr. Bjorklund indicates that in some components of memory function, simple implants of hippocampal cells have significantly influenced recall. He suggests that in the future this phenomenon may lead to the possibility of human brain transplants with perhaps similar results.

INTERPRETIVE COMMENTS:

Amnesia comes in many different forms. It seems that both the extent and location of damage can result in varying qualities of memory loss. A point to emphasize, however, is that in Peter's case he retained a number of important memories which fall in the category of "overlearned" tasks. One does not usually have a complete memory loss because in many cases there is a residual factor which contributes to a degree of retention of some tasks like speaking and walking.

Dr. Bjorklund's work is another example of how animal research can be used to improve upon the conditions of human health and disease.

Module # 20 -- The Hippocampus and Memory

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 8, pp. 314-315 Ch. 3, p. 98
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 10, p. 249 Ch. 3, p. 65
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 7, p. 231 Ch. 2, pp. 54-64
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 7, p. 256
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 15, pp. 392-413 Ch. 2, pp. 24-49 Ch. 4, pp. 87-110
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 6, pp. 250-252 Ch. 2, pp. 40-44; 51
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 10, 267-268
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 2, pp. 53-54 Ch. 7, pp. 270-273
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 2, p. 66 Ch. 6, pp. 205-206
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 6, pp. 169-170 Ch. 3, pp. 72-73
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 9, p. 332 Ch. 4, pp. 130-131

(21) Learning As Synaptic Change
Time: 7:07

DESCRIPTION:

Visits to two laboratories where research is conducted on measuring the growth of synapses constitutes the content of this module. First we see Dr. Jean-Pierre Changeux of the Pasteur Institute in Paris explaining (with a heavy accent) that investigations in young rat brains shows that when learning takes place not only are new connections being formed, but the elimination of synapses is also occurring. According to Dr. Changeux learning involves both the formation of new connections and the elimination of others.

The often repeated myth about people older than 25 years of age who lose perhaps 1,000 brain cells per day is introduced into the discussion by the narrator. Dr. Donald Hebb comments on this myth. According to Dr. Hebb it is true that around the age of 25, individuals do lose brain cells. But at the same time they are getting smarter and smarter and more efficient. How do we account for this? Simply, that individuals make better use of what they have despite the loss of brain cells.

At the University of California, Irvine, Dr. Gary Lynch is studying structural changes which occur during the formation of new learning. He states that what is taking place during learning is an actual structural change at the synapse. After eleven months of searching for these changes he finally demonstrates that during the transmission of electrical energy over individual nerve cells, new connections are formed. Electron micrographs are presented showing these new connections. Dr. Lynch expresses enthusiasm for where findings such as these may lead in terms of potentially being able to influence the sites and extent of these changes. The prospects are indeed challenging.

INTERPRETIVE COMMENTS:

Dr. Changeux has a heavy accent. Listen carefully to what he is saying prior to presenting this to your class. The narrator captures the essence of what is said.

The comments about loss of brain cells by Dr. Hebb relates to the often heard statement that most of us use only a small portion of our brain. True, but at any given moment in time we are focusing on specific tasks which can only process so much of what is going on around us in a given instant. It would appear

Module # 21 -- Learning as Synaptic Change

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 7
Dennis Coon <u>Introduction to Psychology</u> <u>Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 8, pp. 185-203 Ch. 9, pp. 211-227 Ch. 10, pp. 249-250
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 6, pp. 187-217
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 4, pp. 87-132 Ch. 2, pp. 17-31
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 14, pp. 367-385 Ch. 4, pp. 87-110
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 6, pp. 250-252
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 10, 268-269
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 2, pp. 39-46 Ch. 6, pp. 198-230
John W. Santrock <u>Psychology: The Science of</u> <u>Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 6, pp. 205-206
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 5, pp. 123-147 Ch. 3, pp. 66-67
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 9, pp. 332-333

(22) Title: Intelligence and Culture
Time: 4:18

DESCRIPTION:

This module shows Dr. Judy Kearins, University of Western Australia, describing her comparative studies of white Australian children with Aborigines. Australian aborigine children are

shown to be superior to white Australian children in tasks which require visual/spatial skills. In order to demonstrate these differences, Dr. Kearins has developed recognition tests using either man-made objects or natural objects, such as different size and shaped rocks.

When compared to white Australian children, aborigines perform far superior to tests with natural objects. The module shows Dr. Kearins administering her natural-object test to a child. She describes the superior performance on the basis of visual/spatial development. Apparently the learning involves right hemisphere activity compared to left hemisphere, verbal dominance associated with man-made objects.

Dr. Kearins summarizes her statements by describing the differences between aborigine and white Australian children. She indicates that aborigine children are about three years ahead of white children on her natural-object tests. She also indicates that aborigine children perform their tasks on a more or less continuous basis with few pauses. White children, on the other hand, seem to talk to themselves, trying to verbalize about the objects. Apparently the two different groups of children use different strategies and perhaps different hemispheres.

INTERPRETIVE COMMENTS:

This module is an excellent example of cultural bias in testing. Dr. Kearins has demonstrated quite convincingly that environmental influences play an important part in how individuals learn to cope in their environments. It is an excellent example of how different cultures are adept at different sorts of intelligence.

You may want to turn up the volume a bit as Dr. Kearins has a very soft voice which may be difficult to hear in the last row of the classroom.

INTERPRETIVE COMMENTS:

Both Mrs. Brown and Max are genetic males. Their differences are morphological and in gender identity. In both cases the hormone testosterone is implicated. More recent research on the possible effects of hormones on sexual preference reinforces the theme of this program. (See Psychological Bulletin, 1987, Vol. 101, No. 2, pp. 233-258.) A review of these new findings will help in addressing this controversial issue of contemporary interest and importance.

Module # 23 -- Sexual Preference: A Hormonal Possibility

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 11, p. 426
Dennis Coon <u>Introduction to Psychology</u> <u>Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 12, p. 292 Ch. 24, p. 575
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 11, pp. 381-384; 386 Ch. 12, pp. 404-405
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 16, p. 560 Ch. 10, pp. 349-351 Ch. 13, pp. 459-460
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 11, p. 301
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 11, pp. 422-423
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 13, pp. 367-368
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 12, pp. 451-452 Ch. 12, p. 448
John W. Santrock <u>Psychology: The Science of</u> <u>Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 11, p. 382 Ch. 11, p. 377
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 11, pp. 298-299
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 11, pp. 390-391

(24) Title: Multiple Personality
Time: 9:34

DESCRIPTION:

The video opens with Tony walking down a country road, talking to himself about his multiple personalities. The narrator describes Tony as an individual with at least 53 different personalities. Tony, DeDe, Richard (three of them), and others.

Dr. Frances Howland, Yale University School of Medicine describes Tony's unusual case. The program shifts back and forth from Tony's description of himself, to Dr. Howland's commentary, with comments from Tony's wife Roberta.

Tony is shown during a therapy session with Dr. Howland. His wife is also present. Dr. Howland draws various personalities out and probes them about their identity and recognition of the other personalities.

The narrator states that multiple personality starts in childhood, triggered by the need to flee psychologically from real physical or sexual abuse. No one knows what triggered Tony's. Dr. Howland describes some of Tony's personality dynamics and contrasts them to DeDe and Richard.

Tony tries to describe who and what he remembers from his various personalities. Some of his personalities and events are easily remembered, others are a complete blank. What really interests Tony is his visit and examination at the National Institute of Mental Health in Bethesda, Maryland.

Dr. Frank Putnam, National Institute of Mental Health, St. Elizabeth's Hospital, Washington, D.C. describes a technique for measuring brain activity using evoked potentials. He describes an experiment where he was looking for differences in brain activity among the personalities or multiples. He matched a group of multiples with a group of normal individuals who were asked to mimic or fake new personalities. They compared the evoked potentials of both groups. There were differences. Tony, DeDe, and Richard all showed different brain activity patterns. The normal group did not show these differences.

Tony describes his reaction to this finding and expresses annoyance with the results. Dr. Putnam indicates that we do not know how to account for these findings. He does suggest that there may be some real bodily changes that occur when the alternate personalities take over.

INTERPRETIVE COMMENTS:

Tony's case is rather rare. This module does give the student some insight about what goes on in a therapy session. The research technique used in comparing multiples with normal individuals illustrates the variety of applications of the evoked potential technique for measuring brain activity. The interpretation of Tony's condition is surely one sided. The instructor should balance this view of multiple personalities. The work of Nicholas Spanos on role enactments suggests another interpretation. Reference: Spanos, N.P., Weekes, J. R., & Bertrand, L.D. (1985). Multiple personality: A social psychological perspective. Journal of Abnormal Psychology, 94, 362-76.

Module # 24 -- Multiple Personality

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 15, p. 560
Dennis Coon <u>Introduction to Psychology</u> <u>Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 20, p. 493; 483-484 Ch. 2, p. 37
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 17, p. 578
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 19, pp. 670-671
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 21, p. 587
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 14, p. 550-551
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 16, 454-456
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 15, p. 554, 559
John W. Santrock <u>Psychology: The Science of</u> <u>Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 14, pp. 486-487
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 15, p. 418 Ch. 2, p. 33
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 15, pp. 533-534

(25) Title: Schizophrenia
Time: 6:27

DESCRIPTION:

This scene opens at the National Institute of Mental Health, St. Elizabeth's Hospital where a group of mental health professionals are about to observe an interview between a patient named Jerry and Dr. Luewellyn Bigelow. Jerry's case is described along with his medication schedule.

Jerry enters the room twirling his hair with his fingers. He acts in a disordered fashion, rambling on to the questions put to him by Dr. Bigelow. As he continues to ramble, the voice of Dr. Darryl Kirch describes his behavior.

Dr. Kirch describes Jerry as a classic case of schizophrenia manifesting practically all the symptoms of the disease all at once in one person. He is characterized as a textbook case: disorganized, with loosely connected thoughts, delusional ideas, disturbances in mood, displaying purposeless and aimless behavior.

Dr. Bigelow asks Jerry what he wants to do. Jerry responds by saying he wants to get dried out, return home, get a job in a bakery and go to medical school.

Dr. Daniel Weinberger and Dr. Jack Barchas, Stanford Medical School characterize their interpretation of schizophrenia. They focus on schizophrenia as a total picture of a person with illness; a global impairment which effects our highest psychological functions. Dr. Barchas emphasizes the pain and suffering of both the patient and those close to him or her. He states that the disease can last for years.

The scene shifts to a locked psychiatric ward at the National Institute of Mental Health, St. Elizabeth's Hospital, where Dr. E. Fuller Torrey is entering the ward. As he proceeds down the hall, schizophrenia is classified into three levels. The first level involves those who will get well and not get sick again. The second level comprises those who will get sick off and on and spend some time in the hospital, but most of the time out of the hospital. The third level consists of the chronic schizophrenics who remain in the hospital. He then is seen talking to some of the chronic cases with scenes of patients in catatonic postures with blank stares on their faces. Many of these patients also experience brain damage as part of their illness.

INTERPRETIVE COMMENTS:

This program focuses on schizophrenia as a disease. For those who have not observed hospitalized patients this is a realistic view of what the disease involves and how disabling it can be for the individual. Although the patients presented in this program are all male, the disease is not unevenly represented among the sexes. The larger program from which this segment was taken does show female schizophrenia.

Module # 25 -- Schizophrenia

Textbooks

Chapter/Pages

Douglas A. Bernstein
Edward J. Roy, Thomas Srull,
and Christopher D. Wickens
Psychology, 1st Ed., (1988)
Houghton Mifflin Company

Ch. 15, pp. 566-571

Dennis Coon
Introduction to Psychology
Explanation and Application
4th Ed., (1986)--West Publ.

Ch. 21, pp. 509-511

John M. Darley, Sam Glucksberg
and Ronald A. Kinchla
Psychology, 4th Ed., (1988)
Prentice Hall

Ch. 17, pp. 588-592

Henry Gleitman
Psychology, 2nd Ed., (1986)
W.W. Norton Co.

Ch. 19, pp. 648-659

James V. McConnell
Understanding Human Behavior
5th Ed., (1986)
Holt, Rinehart, & Winston

Ch. 21, p. 581

Charles G. Morris
Psychology: An Introduction
6th ed., (1988)--Prentice Hall

Ch. 14, pp. 564-567

David G. Myers
Psychology, 2nd Ed., (1989)
Worth Publishers

Ch. 16, pp. 463-465

Henry C. Roediger III.,
J. Philippe Rushton,
Elizabeth D. Capaldi &
Scott G. Paris Psychology, 2nd
Ed., (1987) Little, Brown & Co

Ch. 15, pp. 552-560

John W. Santrock
Psychology: The Science of
Mind and Behavior, 2nd Ed.,
(1986)--Wm. C. Brown Publ.

Ch. 14, pp. 493-499

Camille B. Wortman and
Elizabeth F. Loftus
Psychology, 3rd Ed., (1988)
Alfred A. Knopf, Inc.

Ch. 15, pp. 426-428

Philip Zimbardo
Psychology and Life, 12th Ed.,
(1985)--Scott, Foresman & Co.

Ch. 15, pp. 540-544
Ch. 3, p. 70

(26) Title: Schizophrenia: Etiology
Time: 6:36

DESCRIPTION:

In this module we see several mental health professionals discussing the etiology of schizophrenia. Dr. Arnold Scheibel, U.C.L.A. Medical School, Dr. Daniel Weinberger, Dr. E. Fuller Torrey, National Institute of Mental Health and Dr. Jack Barchas, Stanford Medical School, present their individual views of the current thinking about schizophrenia. Their various comments range from older ways of viewing the disease as one of nurture or environment to the more contemporary view which takes into account physiological and neurochemical factors.

The point is made by all that there is no scientific evidence which suggests that schizophrenia is caused by environmental influence. The disease is now thought to be related to neurological and biochemical factors. Dr. Scheibel points out that genetic factors predispose schizophrenia. He shows two electron micrographs of hippocampal tissue, one from a normal person and one from a long-term patient with mental disturbance. The two pictures are quite different. The person suffering mental disturbance has cells arranged in a disorganized fashion compared to the normal person whose cells are arranged in a more orderly manner. Dr. Schiebel speculates that these two individuals probably saw the world quite differently from each other as a result of their hippocampal dissimilarities.

INTERPRETIVE COMMENTS:

It is important to emphasize what has taken place in recent years in terms of research on schizophrenia. Environmental factors have been discounted in favor of physiological/biological evidence. The individuals in this program are quite emphatic about the lack of scientific evidence for environmental factors as being causal in the development of the disease. It is particularly important to emphasize the point which is made here, that, even though there is a history of schizophrenia in a particular family, this does not mean that others in that family will at some time in their lives also develop the disorder. The importance of research in this area should be noted. This program is highly related to two other modules in this series -- Schizophrenia and Schizophrenia: Treatment and Research.

Module # 26 -- Schizophrenia: Etiology

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 15, pp. 569-570 Ch. 3, p. 107
Dennis Coon <u>Introduction to Psychology</u> <u>Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 21, pp. 511-516
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 17, pp. 589-592
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 19, pp. 652-659 Ch. 2, pp. 28-29
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 21, p. 582-583
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 14, pp. 564-567 Ch. 2, p. 64, 65, 67 Ch. 2, pp. 37, 39
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 16, pp. 466-468
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 15, pp. 555-560
John W. Santrock <u>Psychology: The Science of</u> <u>Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 14, pp. 495-499
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 15, pp. 428-432
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 15, pp. 549-553

(27) Title: Schizophrenia: Treatment and Research
Time: 6:06

DESCRIPTION:

The program opens with Dr. Arnold Scheibel, U.C.L.A. Medical School, talking about the frustration and sadness which he and other mental health professionals felt in treating patients with mental problems prior to the "drug revolution." He discusses restraining baths used for sedation. He states . . . "from out of nowhere came drugs, introduced from France in this country, and there was a sense of disbelief that we could actually do something substantive for the patient."

The scene then shifts to a picture of St. Anne's Hospital, Paris with the voice of Dr. Pierre Deniker, speaking in French with a voice-over translations, discussing how patients were treated prior to the advent of drug therapy. The narrator describes research and experimentation on various drugs and their effect on hospitalized mental patients and the dramatic results observed. "Sleep began to return to a more normal schedule." Patients were becoming more ordered in their behaviors.

A patient named Augustine is interviewed about his reaction to drug treatment. Augustine has been on medication for approximately four weeks. He describes how he now looks to the future and the prospect of returning to the work force. He is much more realistic after four weeks of drug treatment.

Dr. Jack Barchas, Stanford Medical School, discusses the basic elements of nerve conduction. He relates the process to neurotransmitters, and the specific role dopamine plays in the process. Apparently an excess of dopamine in some way contributes to the disease. Drugs which are effective in treatment seem to reduce the levels of dopamine.

The final scene presents Dr. Luewellyn Bigelow and a patient discussing the patient's response to his drug treatment. The patient reports that the drug treatment has been very helpful to him and that he now feels much healthier as a result.

A voice-over narration by Dr. Barchas speculates about the future when we may have enough information about mental disease to have sub-types both biochemically and behaviorally, making it possible to treat patients with specific drugs. That is the dream which propels researchers like him.

INTERPRETIVE COMMENTS:

When Augustine appears in the picture he is asked "What was your thinking like a month ago"? It happens rather suddenly. Shortly thereafter, the words "four weeks later" appear on the screen. If you are not listening carefully, it is possible to miss the question about "a month ago" and the caption seems out of place. Be alert to the question in the very first part of the interview. A nice historical view of treatment with good commentary about the impact of drug therapy. Specific for schizophrenia.

Module # 27 -- Schizophrenia: Treatment and Research

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 3, p. 109 Ch. 16, pp. 612-613
Dennis Coon <u>Introduction to Psychology</u> <u>Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 21, pp. 517-522
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 17, pp. 589-592 Ch. 18, pp. 605-647
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 19, pp. 653-654 Ch. 19, pp. 688-693
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 21, p. 582-583 Ch. 22, pp. 602-624
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 15, p. 585, 587 Ch. 2, p. 64, 65, 67
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 17, p. 499-501
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 16, p. 595 Ch. 15, pp. 555-557 Ch. 2, pp. 77-78
John W. Santrock <u>Psychology: The Science of</u> <u>Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 15, pp. 534-539 Ch. 15, pp. 508-534 Ch. 14, p. 499
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 16, p. 457, 458 Ch. 16, pp. 452-453
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 1, pp. 10-11 Ch. 15, pp. 544-545 Ch. 16, pp. 561-596

(28) Title: Stress: Locus of Control and Predictability
Time: 3:05

DESCRIPTION:

The rat experiment described here by Dr. Jay Weiss, Rockefeller University, New York is a classic. It appears in virtually every general psychology textbook under the topic of stress and its management.

In the module, Dr. Weiss is talking from his laboratory where he shows the viewer the experimental set up involving two rats, both connected to a stress stimulus of shock to the tail. One animal is labeled the Control animal, the other No Control. Dr. Weiss describes what happens when the two animals are compared in terms of their physiological and neurochemical reactions to the two different conditions of a stress stimulus.

In the Control condition, the rat can turn off the stimulus by simply turning a wheel. The No Control rat receives the stress stimulus irrespective of what it does.

The animal which does not have control is by far in greater danger of developing stomach lesions (ulcers) than the animal who can exercise control over the termination of the stressful event. Dr. Weiss also relates the factor of predictability to the differences in the general health of the animals. He then goes on to relate this animal experiment to the human situation and draws a parallel between control and predictability in our human environments. The evidence is apparent in terms of the two different environments and their respective outcomes for general health.

INTERPRETIVE COMMENTS:

This program illustrates the importance of animal research as a means of promoting human welfare. Taking the results of this experiment and relating them to the human situation provide a clear demonstration of what can be learned from animal studies under laboratory conditions. It also provides the opportunity to ask students to identify stress related factors in their lives and examine the elements they can control and predict which could reduce stress for them.

Module # 28 -- Stress: Locus of Control and Predictability

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 13, pp. 488-490
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 14, pp. 339-340
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 16, pp. 547-552
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 19, pp. 672-674 Ch. 10, p. 647
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 12, pp. 328-329
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 13, pp. 501-505 Ch. 13, pp. 509-510
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 18, pp. 513-514
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 13, pp. 488-490
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 14, pp. 411-420
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 10, pp. 281-286
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 14, p. 512; 496-514

(29) Title: Emotions, Stress and Health
Time: 11:31

DESCRIPTION:

This module is action packed with many transitions from scientists to actors to action graphics. The main message is concerned with prolonged stress and its consequences for health.

The first scene presents Dr. Floyd E. Bloom of the Scripps Clinic and Research Foundation at La Jolla, CA. He is discussing chemical messages and the elements of stress. Then Dr. Jay Weiss of the Rockefeller University, New York, discusses stress and its properties emphasizing environmental characteristics which help to interpret stress related events.

An action diagram shows the brain releasing hormones through the combined action of the hypothalamus, pituitary, adrenal and the locus coeruleus. These events lead to a role playing situation involving two air traffic controllers. They are introduced with the appropriate narrative associating them with high stress related professions. Work scenes convey the multitude of decisions associated with this high stress level job and the consequences resulting from mistakes in guiding unseen airplanes to and from Dorval Airport in Montreal.

Throughout the various scenes of the air traffic controller at work, we see shifts to action graphics simulating what is probably going on inside the individuals, experiencing prolonged low level stress. Then the radar goes out and the stress increases. The operators see mental flashes of aircraft accidents, and they feel out of control when the radar fails.

These scenes are interrupted with descriptions from Drs. Weiss and Bloom describing the relationship between the limbic system and the frontal cortex, speaking to the important balance between these two vital areas. They talk of the consequence of prolonged stress leading to breakdown of frontal lobe functioning.

These sequences all lead to a discussion of the role of inhibition in attaining this balance. The neurotransmitter GABA (Gamma-Aminobutyric Acid) is described as one of the main chemicals in the brain capable of inhibiting the excitatory firing of neurons before they reach the cortex. The tranquilizer Valium is mentioned as one of the GABA facilitating drugs on the market today. The drug seems to have its main effect on the limbic system.

Dr. Weiss ends this sequence stating that one of the major lessons of 20th century biology is recognizing the role of inhibition in most neural tissue.

INTERPRETIVE COMMENTS:

This module has many sequences of action tied together to communicate several messages. The central theme concerns our ability to cope with states of prolonged, and to some extent, uncontrollable stress. Important action graphics show the limbic system and its chemical interaction with endocrine functioning. The role of inhibition is critical to an understanding of how we are able to adjust to variations in stressful environments. A recent reference on GABA can be found in Scientific American, GABAergic Neurons. February, 1988. pp. 82-89.

Module # 29 -- Emotions, Stress, and Health

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 12, pp. 467-469
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 13, pp. 307-321 Ch. 14, pp. 339-345
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 16, pp. 539-543 Ch. 16, p. 570
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 19, pp. 672-674 Ch. 10, p. 647
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 12, pp. 316; 333-334
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 13, pp. 521; 525
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 18, pp. 507-525
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 13, pp. 486-487
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 14, pp. 413-414
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 10, pp. 281-286
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 14, pp. 514-515 Ch. 14, pp. 501-502

(30) Title: Aggression, Violence and The Brain
Time: 6:28

DESCRIPTION:

The topic of animal and human aggression/violence is presented by first showing a classic scene from an old experiment of the 1960's. In this clip, Dr. José Delgado is shown implanting an electrode in the brain of a bull. The bull is later shown charging at a matador in a bull arena. In the middle of a charge Dr. Delgado stimulates the bull's brain, and the animal immediately turns to the right and the charge is short circuited, as it were. (The narrator qualifies this account with the words . . . "or so it seemed.")

The next scene shows a more controlled setting with two cats. One implanted with an electrode in its hypothalamus. Upon electrical stimulation, the cat immediately shows signs of rage and strikes at its caged mate. When the current is withdrawn, normal behavior returns. The question is asked, "But what about human behavior"? Are we, too, at the mercy of our primitive brains, which accounts for our violent, aggressive behavior? This opens the book on the case of Mark Larribus.

Mark Larribus is accused of assaulting and almost killing his girlfriend's two and one-half year old daughter. While in custody of the courts, Mark is taken to the University of California, Davis, Medical Center. Here we see Dr. Joe Tupin describing the outcome of the routine medical examination. A tumor (cyst) is discovered adjacent to Mark's hypothalamus. It is removed.

Mark is seen describing his mental state both before and after the operation. There is a dramatic difference in his behavior after the tumor is removed. Mark describes his new freedom in a way which clearly indicates that once the pressure on his hypothalamus was removed, his tendency to lose control of his emotions disappeared.

Mark is seen with his family as a person who has completely recovered from his aggressive and violent tendencies. A clear-cut case of an unacceptable behavior that was corrected medically.

INTERPRETIVE COMMENTS:

In the opening scene of Dr. Delgado's brain implantation we have a classical experiment which was later criticized in accounting for the animal's restrained rage by electrical stimulation. As the narrator suggests in the statement "or so it

seemed." Apparently, what the stimulation caused was a motor response of turning to the right rather than a cessation of emotional charge. The footage, however, is classical, and the subsequent scenes of the cats "electrical outrage" represents a more accurate interpretation of the relation between hypothalamic stimulation and rage.

Mark Larribus was ultimately cleared of the charges of assault on the basis of insanity. Once his biological condition was altered, his psychological state of aggression was arrested. That is not to say that all rage and violence is brought about by pressure on the hypothalamus. This is one clear example of their relation, and it opens up the possibility for interesting dialogue among your students.

Module # 30 -- Aggression, Violence, and the Brain

<u>Textbooks</u>	<u>Chapter/Pages</u>
Douglas A. Bernstein Edward J. Roy, Thomas Srull, and Christopher D. Wickens <u>Psychology</u> , 1st Ed., (1988) Houghton Mifflin Company	Ch. 18, pp. 690-691 Ch. 18, pp. 671-679
Dennis Coon <u>Introduction to Psychology: Explanation and Application</u> 4th Ed., (1986)--West Publ.	Ch. 26, pp. 625-626
John M. Darley, Sam Glucksberg and Ronald A. Kinchla <u>Psychology</u> , 4th Ed., (1988) Prentice Hall	Ch. 11, pp. 393-394
Henry Gleitman <u>Psychology</u> , 2nd Ed., (1986) W.W. Norton Co.	Ch. 10, pp. 339-340
James V. McConnell <u>Understanding Human Behavior</u> 5th Ed., (1986) Holt, Rinehart, & Winston	Ch. 4, pp. 106-110
Charles G. Morris <u>Psychology: An Introduction</u> 6th ed., (1988)--Prentice Hall	Ch. 2, pp. 48; 52 Ch. 14, p. 564
David G. Myers <u>Psychology</u> , 2nd Ed., (1989) Worth Publishers	Ch. 20, pp. 576-577
Henry C. Roediger III., J. Philippe Rushton, Elizabeth D. Capaldi & Scott G. Paris <u>Psychology</u> , 2nd Ed., (1987) Little, Brown & Co	Ch. 2, p. 53 Ch. 1, p. 11
John W. Santrock <u>Psychology: The Science of Mind and Behavior</u> , 2nd Ed., (1986)--Wm. C. Brown Publ.	Ch. 17, pp. 575-520 Ch. 10, p. 264
Camille B. Wortman and Elizabeth F. Loftus <u>Psychology</u> , 3rd Ed., (1988) Alfred A. Knopf, Inc.	Ch. 18, pp. 517-520 Ch. 10, p. 264
Philip Zimbardo <u>Psychology and Life</u> , 12th Ed., (1985)--Scott, Foresman & Co.	Ch. 18, p. 646

MODULE EVALUATION

We are interested in your evaluation of the modules based on THE BRAIN series. In order to make programs of this type useful in the learning process, we ask you to answer the following questions and return the form by using the self-addressed mailer provided. Thank you for your constructive reactions and comments.

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Textbook used _____ Publisher _____

Would you be willing to discuss your reactions to the modules on the telephone? ☐ yes ☐ no

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 - Do you have any evidence for whether the modules contribute to student learning? ☐ yes ☐ no
 - If yes, what is the source of your evidence _____
 - Which of the modules do you find most useful? Nos _____
 - Which of the modules do you find least useful? Nos _____
 - Are the modules about the right length for your purposes? ☐ yes ☐ no ☐ too long ☐ too short
 - Is the Instructor's Guide helpful in deciding which modules are of potential value? ☐ yes ☐ no
 - Are the interpretive comments a useful addition to the Guide? ☐ yes ☐ no
 - Do you make use of Teaching Assistants in your general psychology offerings? ☐ yes ☐ no
 - Do you find the modules useful for your teaching assistants? ☐ yes ☐ no
 - How do you use the program cassettes for playback at your institution?
 - ☐ Use the cassettes in their original form and rely on counter setting to locate a specific module
 - ☐ Rerecorded each module on a separate cassette for convenience of playback
 - ☐ Rerecorded the modules to change their order or to make their use more convenient for playback
 - How could the modules be packaged for greater convenience to you? _____
-
- Do you show the modules in class? ☐ yes ☐ no • Outside of class ☐ yes ☐ no
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MODULE EVALUATION

(page 2)

- Would you like to see other longer programs edited down to shorter modules similar to this series?
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- How many times (academic terms) have you used any of the modules in conjunction with your course
[] once [] twice [] three times [] more than three times
- Any additional evaluative comments: _____

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Thank you