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SPECIAL ISSUE

ADA Fact Sheet

HIGHLIGHTS:

Employment

- Employers may not discriminate against an individual with a disability in hiring or promotion if the person is otherwise qualified for the job.
- Employers will need to provide "reasonable accommodation" to individuals with disabilities. This includes steps such as job restructuring and modification of equipment. But employers do not need to provide accommodations that impose an "undue hardship" on business operations.
- The law covers those who are HIV positive and people with AIDS. However, it does not protect people who are a direct threat to the health or safety of coworkers.
- Applicants and employees are not protected from personnel actions based on their current use of illegal drugs. Drug testing is not prohibited.
- Complaints may be filed with the Equal Employment Opportunity Commission. Available remedies include back pay and court orders to stop discrimination.
- Employers with 25 or more employees must comply, effective July 26, 1992.
- Employers with 15-24 employees must comply, effective July 26, 1994.

Regulations are due from the U.S. Equal Employment Opportunity Commission by July 26, 1991.

Public Accommodations

- Public accommodations such as restaurants, hotels, theaters, doctors' offices, pharmacies, retail stores, museums, libraries, parks, private schools, and day care centers, may not discriminate on the basis of disability, effective January 26, 1992. Private clubs and religious organizations are exempt.
- Reasonable changes in policies, practices, and procedures must be made to avoid discrimination.
- Auxiliary aids and services must be provided to individuals with vision or hearing impairments or other individuals with disabilities, unless an undue burden would result.
- Physical barriers in existing facilities must be removed if removal is readily achievable (i.e., easily accomplishable and able to be carried out without much difficulty or expense). If not, alternative methods of providing the services must be offered, if those methods are readily achievable.
- All new construction in public accommodations, as well as in "commercial facilities" such as office buildings, must be accessible. Elevators are generally not required in buildings under three stories or with fewer than 3,000 square feet per floor, unless the building is a shopping center, mall or a professional office of a health care provider.
- Alterations must be accessible. When alterations to primary function areas are made, an accessible path of travel to the altered area (and the bathrooms, telephones, and drinking fountains serv-

ing that area) must be provided to the extent that the added accessibility costs are not disproportionate to the overall cost of the alterations.

- Entities such as hotels that also offer transportation generally must provide equivalent transportation service to individuals with disabilities. New fixed-route vehicles ordered on or after August 26, 1990, and capable of carrying more than 16 passengers, must be accessible.
 - Individuals may bring private lawsuits to obtain court orders to stop discrimination, but money damages cannot be awarded.
 - Individuals can also file complaints with the U.S. Attorney General who may file lawsuits to stop discrimination and obtain money damages and penalties.
- Regulations are due from the U.S. Department of Justice on July 26, 1991.

Transportation

Public Bus Systems:

- New buses ordered on or after August 26, 1990, must be accessible to individuals with disabilities.

- Transit authorities must provide comparable paratransit or other special transportation services to individuals with disabilities who cannot use fixed route bus services, unless an undue burden would result.

- New bus stations must be accessible. Alterations to existing stations must be accessible.

- Individuals may file complaints with the U.S. Department of Transportation or bring private lawsuits.

Public Rail Systems:

- New rail vehicles ordered on or after August 26, 1990, must be accessible.

- Existing rail systems must have one accessible car per train by July 26, 1995.

- New rail stations must be accessible. As with new bus stations, alterations to existing rail stations must be made in an accessible manner.

- Existing "key stations" in rapid rail, commuter rail, and light rail systems must be made accessible by July 26, 1993, unless an extension of up to 20

years is granted (30 years, in some cases, for rapid and light rail).

- Existing intercity rail stations (Amtrak) must be accessible by July 26, 2010.

- Individuals may file complaints with the U.S. Department of Transportation or bring private lawsuits.

Privately Operated Bus and Van Companies:

- New over-the-road buses ordered on or after July 26, 1996 (July 26, 1997, for small companies), must be accessible. After completion of a study, the President may extend the deadline by one year, if appropriate.

- Other new vehicles, such as vans, must be accessible, unless the transportation company provides service to individuals with disabilities that is equivalent to that operated for the general public.

- Other private transportation operations, including station facilities, must meet the requirements for public accommodations.

- Individuals may file complaints with the U.S. Attorney General



Patrisha Wright, Director of Government Affairs for the Disability Rights Education and Defense Fund, and Ralph Neas, Executive Director, Leadership Conference on Civil Rights, at the celebration ADA picnic. They played major roles in the passage of ADA.

or bring private lawsuits under the public accommodations procedures.

Regulations are due from the Department of Transportation by July 26, 1991.

State and Local Government Operations

- State or local governments may not discriminate against qualified individuals with disabilities. All government facilities, services, and communications must be accessible consistent with the requirements of section 504 of the Rehabilitation Act of 1973.

- Individuals may file complaints with Federal agencies to be designated by the U.S. Attorney General or bring private lawsuits.

Regulations are due from the U.S. Department of Justice on July 26, 1991.

Telecommunications

- Companies offering telephone service to the general public must offer telephone relay services to individuals who use telecommunications devices for the deaf (TDDs) or similar devices.

- Individuals may file complaints with the Federal Communications Commission.

Regulations are due from the Federal Communications Commission on July 26, 1991.

For answers to questions, contact the U.S. Department of Justice, Civil Rights Division, Post Office Box 66118, Washington, D.C. 20035, telephone (202) 514-0301 (voice), (202) 514-0381 (TDD).

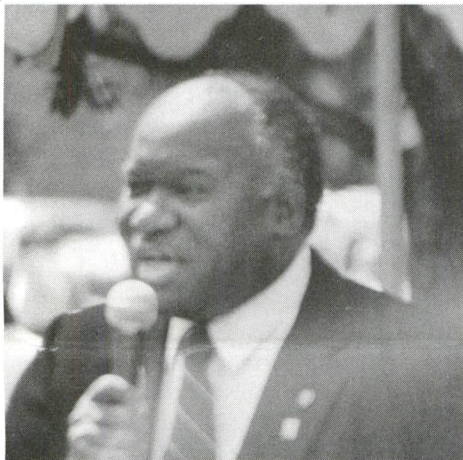
For a copy of full ADA Fact Sheet at no cost, write to N.O.D.

CELEBRATING ADA



*Tony Coelho with
N.O.D. President
Alan Reich.*

*Behind Larry
Robinson of NH,
left to right, June
Kailes of CA,
Ginny
Thornburgh,
N.O.D., Robert
Silverstein, Chief
of Staff, Senate
Subcommittee on
Disability Policy.*



*Father and son,
Sen. Edward
Kennedy and
Edward
Kennedy, Jr.*

*Rep. Major Owens
of NY urges crowd
of people with
disabilities to "get
visible."*



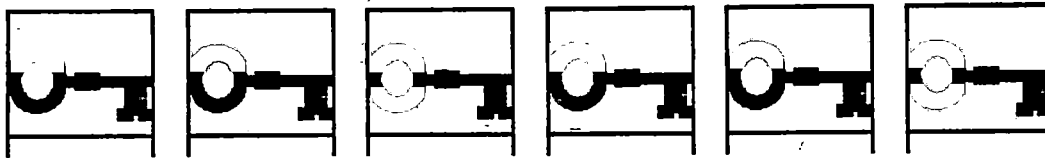
Sen. Bob Dole, KS



*Behind N.O.D.
President Reich,
left to right,
Charles Goldman,
Joseph D.
Mathewson,
Chairman, N.O.D.
Board of Directors,
Richard Bishop*

Photos by Lisa Kelly





THE ADA KEY CAMPAIGN

TRANSPORTATION IS THE "KEY" TO INTEGRATION

Members of House committees that will consider the transportation provisions of the ADA must be reminded that accessible transportation is an essential requirement for achieving the goal of the ADA - integrating all people with disabilities into the mainstream of American society.

We want to flood the offices of all Members on the these committees with keys. Members of the Public Works and Transportation Committee (which has jurisdiction over public and private bus transportation) and the Energy and Commerce Committee (which has jurisdiction over AMTRAK and commuter rail) should receive keys. Each key should be accompanied with the message that "TRANSPORTATION IS THE KEY TO INTEGRATION".

Use any key that you have laying around your house. Or go to a hardware store and buy a blank key. Ask your family, friends, co-workers, neighbors, etc. to send keys to these members also.

UNLOCK THE DOOR TO OUR CIVIL RIGHTS - PASS THE ADA

You can also send keys to other Members of the House of Representatives to emphasize the importance of the ADA to people with disabilities. Advocates in many states have already begun to send keys to Members with the message: "Unlock the door to our civil rights". Again, any key - new or old will do. The message is what's important!

All keys should be sent to:

Hon. (name of Member)
U.S. House of Representatives
Washington, D.C. 20515



HERALD IN 1990 WITH ADA!!

Have you ever wondered how your holiday card mailing list got so large? We have some New Year's cards we're asking supporters to send that we hope will not be necessary next year. We have printed over 1 MILLION ADA New Year's postcards which are being distributed nationally. Our goal is that all House offices, especially those of key committee members and the House leadership will be inundated with these postcards by the end of January when Congress reconvenes.

**** The cards themselves are free, but each requires a 15¢ stamp.**

**** Cards are being sent to affiliates of national organizations (e.g. (ARC, PVA, NCIL, UCP, MS Society, Spina Bifida, etc). Most should arrive by December 20. Call your ADA regional contact person (see enclosed list) if you are having trouble locating them. Give them your name, full address and the number of cards you need. We will fill orders for 200 or more postcards.**

**** your shipment of postcards will include an instruction sheet which lists target committee members**

EVERYONE CAN PARTICIPATE IN THIS PROJECT!!! BE CREATIVE in your distribution of these cards -- don't forget to involve:

- family members, friends, co-workers, neighbors
- parent groups, other support groups
- rehab centers, service providers, workshops, etc.
- local church and civic organizations in your community
- college campuses

Get your members, staff, clients, advocates and volunteers -- i.e. EVERYONE involved. Have an ADA party or coffee or tea - provide a roll of stamps and ask people to contribute to cover the cost -- that way you will insure that the cards are sent.

All House offices will keep track of every postcard that they receive, so EVERY CARD COUNTS!!! For many members of the House, this is a counting contest - we can't be outdone by the business community! Passage of a strong ADA is not automatic - IT'S UP TO US!!

HAPPY NEW YEAR!

THE ADA: WHAT TO DO OVER THE NEXT 2 MONTHS

No vote is safe on the ADA, especially in committee. All members are up for re-election in 1990. Many business groups are heavy contributors to their campaigns. **NO ONE, NOT EVEN OUR CO-SPONSORS, CAN BE TAKEN FOR GRANTED!** Co-sponsoring the ADA, or a member saying that he/she supports it, doesn't mean that they will oppose all weakening amendments. For example, Rep. Austin Murphy (D-PA), a cosponsor who is also a past Chair of the Select Education Subcommittee (which has jurisdiction of all disability issues), offered one of the most damaging amendments in the Education & Labor Committee - which was defeated.

Remember, members of the House are politicians. We can't let them forget that their constituents with disabilities, their families and friends are also voters. We may not be able to make ourselves heard with our dollars but we can make them hear us at the polls! Here's what needs to be done:

THE NEW YEAR'S POSTCARD CAMPAIGN - We want Members of the House to be greeted on their return to Washington in January with a little reminder that the ADA should be a top priority on their agenda. So we have printed over 1 million ADA postcards which are being distributed to disability advocates across the country. Please see enclosed sheet **"HERALD IN 1990 WITH ADA"** which explains how you can obtain these postcards.

DISTRICT VISITS WITH MEMBERS: All members of the House will be in their home districts until January 22nd. Take advantage of this opportunity to meet with your Members - we know that the business community is! Call your Member's office to set up a meeting. If you can't schedule a meeting with your Member, set up one with a staff person. Follow-up with them to insure that they pass on your concerns to their boss.

TOWN MEETINGS: Most members schedule public "Town Meetings" or "Citizens Forums" in their districts during recess. Call their district office to find out when they are scheduled (if none are, request that he/she holds one). Attend with as many people as possible - your friends, family, etc. If the member is already a co-sponsor, thank him/her and emphasize how important it is to oppose ALL weakening amendments.

VISITS IN WASHINGTON: If you are planning a vacation or setting up a meeting or conference in Washington, please plan to meet to visit your Member while you are here. Many advocates from around the country came to D.C. in October and were very effective on the Hill. Visits are most helpful prior to committee mark-ups. We will keep you posted on these dates.

THE ADA KEY CAMPAIGN: What do old keys and key blanks have to do with the ADA?? See enclosed sheet for details.

ADA REGIONAL RESOURCE CONTACTS: In order to get you the most current information on the bill, we have set up a system of "Regional Contact Persons" to answer questions and assist with grassroots organizing efforts. We hope this will make up-to-date communication on the bill more frequent and thorough. Feel free to call your contact person if you have any questions. All contact persons are included on enclosed list.

UPDATE ON THE ADA

EDUCATION & LABOR COMMITTEE: Major victory! On Nov. 14, the Committee unanimously reported the bill after several weakening amendments were defeated. We would not have been able to defeat these amendments without the hard work of everyone who wrote and called - great job! However, our work is far from over:

Not one business group has endorsed the ADA. The business community still has major concerns with the bill and is actively working to weaken it. The Chamber of Commerce, National Federation of Independent Businesses (NFIB), National Association of Theater Owners, Shell Oil, National Association of Retailers and others as well as the private transit industry and some public transit authorities continue to generate erroneous information about the bill to their memberships in an attempt to weaken it.

PUBLIC WORKS & TRANSPORTATION COMMITTEE: Subcommittee and full committee mark-ups will probably be held in late January-early February. Rep. Bud Shuster (R-PA), ranking minority on the Surface Transportation Subcommittee will be carrying amendments on private transportation (Greyhound, etc - the enclosed New York Times/Wall St. Journal editorials illustrate the industry's aggressive campaign on this issue). On public transit, cold and inclement weather exemptions and a small town exemption, which would lead us back to local option, will also be offered.

Local option seems reasonable to many members because the term implies freedom of choice. When you meet with and write to Members of this committee, it's important to emphasize that 1) ADA requires paratransit as well as mainline access, 2) money spent for purchasing lifts for new buses will not come out of a town's paratransit budget - therefore no one's paratransit services will decrease as a result of purchasing lifts, 3) lifts work in cold and rainy areas as well as in small towns, and 4) most importantly, that the entire intent of the ADA - to integrate people with disabilities into the mainstream of American society - will be severely undermined if any one of these amendments is adopted.

JUDICIARY COMMITTEE: Mark-up expected in early February. This is the business community's last opportunity to weaken the public accommodations and employment section in committee. We expect that Rep. Bill McCollum (R-FL) and other members will offer several amendments on public accommodations. These could include: reducing the scope of what's covered, reducing or eliminating civil penalties (monetary fines) that a court can impose in pattern or practice cases brought by the Attorney General, increasing the elevator exemption, and several others.

ENERGY & COMMERCE COMMITTEE: Mark-up expected in late February-early March. Rep. John Dingell (D-MI), Chairman of the Committee, has several concerns regarding AMTRAK. For example, Chairman Dingell wants to tie ADA's accessibility requirements to the level of appropriations AMTRAK gets each year and he wants to limit accessibility to 1 car per train, even in new trains. This would result in a lesser standard than currently exists under Section 504. Many committee members share these views. Rep. Dingell also feels that the ADA's definition of disability is too broad. Other members want to extend time lines for accessibility of commuter rail lines. In addition, some telephone companies have suggested weakening the telecommunications section.

PLEASE SEE ENCLOSED STATE BY STATE COMMITTEE LISTS
AND FOLLOWING PAGE ON WHAT TO DO IN NEXT 2 MONTHS

THE
AMERICANS
WITH
DISABILITIES
ACT OF 1990

AIRCRAFT ACCESSIBILITY CHART

AIRCRAFT TYPE	TAIL NUMBER	ACCESSIBLE SEATS MOVEABLE ARMREST	CLOSET FLOOR WEIGHT/ SPACE CAPACITY	ACCESSIBLE LAVATORY	PRIORITY BLOCKED SEATS
DC 10-30	061-064, 066-070, 072, 073	None	70lbs (58 x 20 x 39)	No	1B 16K, L 17A, B 29G, H
	060, 074-084	17-21B, D, H, K 29-41D, H 30-45B, K 44-45D, H			
	065, 071	30-45B, K 29-41D, H 44-45D, H			
	074, 075, 077-084	17-21B, D, H, K 30-45B, K 29-45D, H			
	085-090	17-21B, K 18-21D, H 30-45B, K 29-41D, H 44-45D, H			
DC 10-10	All (041-047)	None	None	Privacy Curtain	1B 16A, B 18D, E
B727	All	All C and D except exit, bulkhead, row 29 and first	120lbs (43 x 21 x 23)	No	1B 5A, B, C 10D, E 11A, B
B737-100	201, 204, 206, 208, 209	None	None	No	2B 5A, B, C 8D, E 15A, B
B737-200	231, 233	None	120lbs (42 x 20 x 22)	No	2B 5A, B, C 8D, E 15A, B
	236, 239, 241, 245, 248, 251, 252	6-8C, D 14-22C, D			
B737-300	All (301-358)	All C and D except exit, bulkhead and first	30lbs (37 x 9 x 39)	No	2B 5A, B, C 10A, B 11D, E
B737-500	All (101-105)	All C and D except exit, bulkhead, last row and first	40lbs (37 x 16 x 47)	Privacy Curtain	1B 5A, B, C 11A, B 12D, E
B737-700	All (701-708)	All C and D except exit, bulkhead, last row and first	20lbs (38 x 31 x 22)	Privacy Curtain	1B 5A, B, C 10D, E 15A, B
B737-800	All (210)	All C and D except exit, bulkhead, last row and first	88lbs (46 x 16 x 45)	Privacy Curtain	2B 5A, B, C 11D, E 15A, B
B757-200	All (101-113,116-125)	All C and D except exit, bulkhead and first	80lbs (38 x 33 x 31)	Privacy Curtain	1B 8D, E, F 14B, C 17E, F
B777-200	All (001-005)	All B, D, H and K except exit, bulkhead and first	50lbs (28 x 35 x 60)	Yes	8B 16A, B, C 18D, E 19K, L
DC9-30	506-508, 514, 522, 525, 534, 535, 537, 544	None	100lbs (52 x 15 x 34)	No	2B 5D, E, F 6A, B
	509, 510, 513, 523, 524, 531, 533, 538, 539, 541, 543, 545, 557, 563, 564	6C, 7C, 23C, 24C			
MD80	All	All C and D except exit, bulkhead and first	50lbs (54 x 23 x 40)	No	1B 5D, E, F 12A, C

PRIORITY BLOCKED SEATING

Priority Blocked Seats may **only** be given to the following customers:

(24 hours or more prior to sked flight departure):

- A customer using a aisle chair to access the aircraft and who cannot transfer over a fixed aisle armrest.
- A customer traveling with a personal care attendant (must be seated side by side).
- A customer with a vision impairment traveling with a reader/assistant (must be seated side by side).
- A customer with a hearing impairment traveling with an interpreter (must be seated side by side).
- A customer traveling with a service animal.
- A customer with a fused or immobilized leg.

(Less than 24 hours prior to departure):

- Priority Blocked Seats may be assigned to the general traveling public, however these seats should be given to the above customers with disabilities if unassigned.

Seating for customers with disabilities not listed above:

- Assign an available seat that best accommodates the customers needs. "V" seats are allowed to be used for customers with a disability.

MOVABLE ARMREST

- Movable armrest for all aircraft can be identified in DRS by aircraft type and tail number. See **GG ARMREST**.
- All Priority Blocked Seats have movable armrest except bulkhead and first class.
- Some aircraft/tail numbers do not have any seats with movable armrests. Check DRS.
- **Note:** Those aircraft/tail numbers that do not have any movable armrest are not required to be retro fitted at this time.

CLOSET FLOOR WEIGHT/SPACE CAPACITY

- On all aircraft with a closet of adequate size and weight capacity, collapsible wheelchairs (manual or electric), are to be stowed in the closet, if requested by the customer, on a first come first serve basis and the customer must avail him/herself to preboarding.
- The average weight of a collapsible manual wheelchair is 18lbs.
- The average weight of a collapsible electric wheelchair is 80lbs without the battery(s) and 150lbs with the battery(s).
- The **ONLY** battery(s) acceptable for transportation in the passenger cabin:
 - *manufacturing date of September 30, 1995 or later, and*
 - *labeled "non-spillable"*
- Batteries not accepted in the passenger closet will be removed from the wheelchair, packaged in a battery box and stowed in the cargo compartment of the aircraft.

EXPRESS AIRCRAFT ACCESSIBILITY CHART

AIRCRAFT TYPE	TAIL NUMBER	ACCESSIBLE SEATS MOVEABLE ARMREST	CLOSET FLOOR WEIGHT/ SPACE CAPACITY	ACCESSIBLE LAVATORY	PRIORITY BLOCKED SEATS
ATR	All	None	None	No	12A, B
ATR-42	All	All, except aft facing seat	None	No	12A, B
ATR-72	All	All	None	No	18A, B
BE1 ~ BEECHCRAFT 1900's	All	None	None	No	2A
EM2 ~ EMBRAER BRASILIAS	All	None	None	No	1B, C
ERJ ~ EMBRAER 145 REGIONAL JET	All	All, except 1A and 3B	None	No	3B, C

AUTHOR: Prof. B. R. Bugelski of the University of Buffalo
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[See also Data-Guide's
VOCABULARY FOR PSYCHOLOGY]

DATA-GUIDE EDITOR: Joseph L. Leon
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1. SCHOOLS OF PSYCHOLOGY. A. STRUCTURALISM. (W. Wundt, 1879). 1. Mental life defined as combinations of structural elements — sensations, images, and feelings. 2. Introspection (looking into yourself) used as a method by which a complex percept or idea could theoretically be analyzed. **B. FUNCTIONALISM.** (John Dewey, James Angell; 1908). Behavior essentially adaptive, useful; its analysis related to environmental change. **C. GESTALT.** (M. Wertheimer, K. Koffka, and W. Kohler; 1913). Behavior and mental life cannot be separated into elements. Analysis destroys the whole which is greater than the sum of its parts. Phenomena must be understood as wholes. **D. PSYCHOANALYSIS.** (Sigmund Freud, 1895). Behavior assumed to be importantly controlled by unconscious motivation which can only be observed by special methods of analysis. **E. BEHAVIORISM.** (John B. Watson, 1913). Only publicly observable behavior is the proper subject matter of psychology. Behavior is primarily a function of the environment. Control the environment and you control behavior. **F. NEO-BEHAVIORISM.** (Clark Hull, Edward Tolman; 1935). Behaviorism too limited. Postulates about inner mechanisms (motivations) deduced from experimental observation are added.

2. THE STIMULUS-RESPONSE (S → R) LAW. **DETERMINISM AS APPLIED TO PSYCHOLOGY.** 1. Determinism stresses that behavior is a function of specifiable variables. All responses are caused by or related to stimuli or conditions. If you know the stimulus and the conditions, you can predict responses. Thus, behavior is considered a function of stimulation: $B = f(S, C)$. **D. DIFFICULTIES.** WITH THE S → R LAW. 1. Difficult to define stimuli except with reference to the responses. 2. Most psychologists insist on considering the organism (O) as modifying the relationship between stimulus (S) and express the formula thus: $S \rightarrow O \rightarrow R$. 3. B. F. Skinner claims stimuli are too complex to describe and prefers to observe only responses. In Skinner's view, responses are thought of as emitted by the organism, not elicited by stimuli. Stimuli, when involved, are thought of as the stage for responding. They are then thought of as discriminated stimuli (SP). 4. Clark L. Hull, C. E. Osgood et al., think of additional S → R sequences as intervening between S and R; thus the external world change S, leads to some internal event r, which is followed by another internal event s, and these can continue initiating additional S → R's before the final observable R. These inner, covert, implicit S → R units are thought of as extra stages within the basic S → R framework. Thus, we speak of a multiple-stage S → R law to account for delays between S and R (as in thinking).

3. EXPERIMENTAL METHODS OF PSYCHOLOGY. A. BASIC PRINCIPLE. 1. Involves a controlled situation where observations are made on some dependent variable (a sample of behavior) when one factor (the independent variable), assumed to be related to the behavior, is systematically varied. 2. Comparisons are made with a control condition where the independent variable is held constant. Independent variables normally considered are classified as environmental, task, and subject variables. **B. PSYCHOPHYSICAL METHODS.** Procedures for controlling the presentation of stimuli to observers (O's). 1. THE METHOD OF AVERAGE ERROR. Here the O manipulates a stimulus and tries to adjust it to match a standard. His errors are averaged. These errors can be of two types, constant and variable. Constant errors indicate a general tendency to either over or underestimate. Variable errors measure the consistency with which O sets his stimulus. 2. METHOD OF LIMITS. The experimenter (E), gradually changes a stimulus by discrete steps, until O reports equality or difference from some standard. 3. METHOD OF CONSTANT STIMULI. E calls for repeated comparisons between some standard and a series of fixed constant stimuli differing by known small steps. **C. CLINICAL METHODS.** 1. TESTS. These can be objective, with a limited range of possible answers; or projective, wherein the subject (S) is asked to react to vague, amorphous, or unstructured stimuli (see 38-C) in terms of his own background. 2. RATING SCALES. A trait is described in terms of low to high in a number of steps. The rater indicates where he believes some person, item, or stimulus fits on the scale. Ratings suffer from halo effects (see 38-F). 3. INTERVIEWS AND QUESTIONNAIRES. These suffer from possible deception, lack of rapport, overgeneralization. 4. OTHER METHODS. Methods can be thought of as longitudinal (long term investigations, following up subjects, obtaining case histories, etc.), or cross-sectional (the more typical experimental operation).

4. BASIC METHODOLOGY REQUIREMENTS. A. RELIABILITY. 1. To be acceptable as a fact or a method, it must be dependable and give about the same results every time it is used (reproducible). 2. Reliability is commonly measured by statistical procedures involving repeated measuring. Comparing the differences between two sets of scores on the same people, by special techniques yields coefficients of correlation. **B. VALIDITY.** A finding must be true: A test for mechanical ability should not measure intelligence. **5. BIOLOGICAL FOUNDATIONS OF PSYCHOLOGY. A. HEREDITY VS ENVIRONMENT.** 1. It is generally accepted that physical characteristics (color of eyes, hair, length of nose, etc.) are hereditary, but even these develop in certain specific environments which may modify them. 2. Most psychological traits (apprehensiveness, sociability, honesty, sense of humor, etc.) are regarded as primarily environmentally determined. 3. Man is regarded as a product of heredity and environment, with each affecting the other. He could not survive or develop without both. **B. MATURATION.** Traits are generally regarded as characteristics that develop in due time regardless of any special training or environmental influence (maturation). 2. Secondary sex characteristics are also considered delayed hereditary products. Sex behavior on the other hand, is a result of both physiological development and environment. 3. If an activity appears at about the same time or in the same

sequence) in most people, and if training does not appear to be able to speed up this appearance, the activity is considered to be maturational in nature. **C. INSTINCT.** 1. In some animals (insects, fish, birds) some behavior patterns seem to be universal, appear without training, and seem to be adaptive. These are attributed to inherited neural connections (built-in programs). 2. Due to the long infancy of man, there is a major problem in proving that something has not been learned. Similarly, wide variations in almost all human behavior patterns precludes establishing them as either universal or adaptive. 3. Psychologists agree generally that the instinct concept is of little or no help in accounting for human behavior. Even on the animal level, every effort is made to account for behavior in terms of external stimuli and internal conditions. **D. IMPRINTING AND OTHER EARLY EXPERIENCE.** 1. Some animals (mostly birds) show very rapid and irreversible learning or imprinting of a few responses shortly after birth. 2. While there are no clear findings for humans, experiments with animals suggest marked influences on learning ability, emotionality, even sensory capacity, from extreme types of environmental manipulations in infancy. **6. PHYSIOLOGICAL FACTORS—THE REFLEX ARC. A. TRADITIONAL VIEW.** Behavior, according to Watson, was assumed to follow the pattern of a reflex. A sensory stimulus would initiate a neural impulse in an afferent (sensory) nerve cell. This impulse would stimulate an efferent (motor) nerve cell by means of a synapse (a functional, not physical, connection). Frequent impulses across a synapse were supposed to make successive crossings easier (learning, habit). The motor nerve would carry the impulse to a muscle or gland (the effector). **B. MODERN VIEWS.** The Central Nervous System is now viewed as constantly active, as measured by electroencephalograms (EEG). (The reflex arc is considered a "convenient fiction"). An impulse that enters the CNS is modified or influenced (facilitated or inhibited) especially by the so-called "reticular activating system" (a diffuse net-work of neurons in the brain stem or medulla). **7. CENTRAL NERVOUS SYSTEM (CNS).** Consists of the brain and spinal cord. **A. THE BRAIN.** Has some 12 billion neurons or nerve cells. Each cell has extensions or branches called dendrites or proliferations (which pick up impulses) and axons (along which impulses travel toward other cells). When neurons are stimulated they initiate a train of impulses. Even when not stimulated, neurons will discharge spontaneously. The function of neurons is a connective one, but no longer is this regarded as a static process. **B. FUNCTIONAL LOCALIZATION.** Experiments have shown that when certain temporal lobe areas are stimulated with weak electric shocks, emotional disturbance, specific memories, etc., can be induced. Yet, no single area of the brain is the exclusive seat of any function, psychological process, aptitude or trait. For example, though the principal vision connections are considered to be localized in the occipital lobe many other parts of the brain are involved in a visual response. **8. AUTONOMIC NERVOUS SYSTEM (ANS).** An automatic regulatory system for maintaining general life processes (breathing, digesting, eliminating, etc.). It consists of two divisions: **A. THE PARASYMPATHETIC.** Divided into cranial and sacral sections. It functions under routine conditions. **B. THE SYMPATHETIC.** Considered more of an emergency system which functions in times of stress or strong emotion. It raises the level of general activity, increases heart rate, releases adrenalin, etc. **C. EFFECTORS.** Neural impulses terminate in actions of muscles and glands. 1. Muscles of two types are involved: striate or skeletal muscles and smooth muscles (visceral organs, blood vessels, intestines, etc.). 2. Glands are also of two types: endocrine glands (pituitary, thyroid and duct glands (salivary, etc.). The endocrine gland secretions affect other glands, body size, and growth rate.

— SENSATION —

9. SENSATION. A. DEFINITION. Generally considered as an internal process inferred from a special class of observed S → R relations. **B. ATTRIBUTES OF SENSATION.** Sensations were described by Wundtians as possessing features of: 1. QUALITY. Sub-sense of vision is color; of hearing, pitch. 2. INTENSITY. loudness, brightness. 3. DURATION. 4. CLEARNESS. **C. FUNCTIONAL CHARACTERISTICS OF SENSATION.** 1. ADAPTATION. Following prolonged stimulation, a sense may become fatigued or otherwise ineffective: we do not hear clocks tick. 2. CONTRAST. A specific sensory experience can be enhanced or changed by background factors: blue looks bluer on yellow background. 3. SUMMATION EFFECTS. Two sensations may sum to produce a third: warm and cold stimulation may produce pain. 4. MASKING. Low tones make high tones hard to hear. **10. THRESHOLDS. A. ABSOLUTE THRESHOLD.** For any sense, it is the minimal amount of stimulus energy that is necessary for a reaction to occur. **B. DIFFERENCE THRESHOLD OR DIFFERENCE LIMEN (DL).** The minimal amount of energy change required to detect a difference between one stimulus and another measured by psychophysical methods. **C. TERMINAL THRESHOLD.** The upper level of intensity of stimulation where further additions of energy are not perceived. At this point, one sense reaction may change to another type: loud noise may become painful. **11. WEBER'S LAW (1834).** Changes in sensation are relative to changes in stimulus strength. 1. In an observer's report of a change in stimulus strength, the amount of change must be above some fixed fraction of the original or standard stimulus: $\Delta S/S = k$, where S is some standard stimulus, ΔS is the amount of change, and k represents a constant. 2. Weber's Law holds in the middle range of stimuli (those intensities that are neither too low nor too high). 3. Typical fractional constants are: for light, .01; for sound intensity, .25 to .30; for weight, .03. **12. FECHNER'S LAW (1860).** Fechner attempted to measure sensation strengths themselves and not just stimulus differences. He restated Weber's Law to read $S = k \log R$ where S is now the sensation itself, k is the Weber fraction and R is the

stimulus strength. Lost adherents because of assumption that Just Noticeable Differences (J.N.D.) were equal throughout the range of stimuli.

13. IMAGES. Current positions regard images as conditioned sensations, with sensation itself regarded as some neural aftermath of sensory stimulation: song produces image of loved-one.

— PERCEPTION —

14. THE BASIC GESTALT PRINCIPLES. Analysis of perceptions is unfruitful. Experiences must be taken as phenomenological givens. Gestaltists hold that "we see the world not as it is but as we are." The observer, in effect, contributes to the organization of the sensory world through his own nature. **A. FIGURE-GROUND.** Any stimulus is perceived as a figure against a background: A sound is heard against silence or some other "noise". **B. GOOD FIGURE.** We always perceive the best figure possible from any stimulus, organizing it into a meaningful whole. **C. COMPLETION.** Broken or incomplete patterns are perceptually completed to form the most likely whole figures (closure). **D. PATTERNING.** Distinct and separate stimulus objects will be organized where possible (because of similarity) into groups, figures, etc.: A series of successive musical notes becomes a melody with the individual notes of less significance than the pattern or arrangement. **E. THE WHOLE IS GREATER THAN THE SUM OF ITS PARTS.** Our perceptions contain or consist of wholes not parts: We see a wheel, not rim, hub, spokes; a triangle, not sides and angles.

15. OTHER FACTORS IN PERCEPTION. A. MOTIVATION AND SET. We perceive what we expect to perceive in many situations. Instructions can determine our perceptions: ambiguous circumstances. **B. PERCEPTIONS CHANGE WITH AGE AND EXPERIENCE.** A child and an adult will perceive the size of a room differently. **C. PRINCIPLE OF CONSTANCY (GESTALT).** To some degree, we continue to see the same object even after physical change (distance, color, etc.): a familiar object appears same size whether seen at 5' or 15'.

16. ABNORMALITIES OF PERCEPTION. A. ILLUSIONS. Commonly shared misinterpretations of physical stimuli due to sense organ characteristics or experience: railroad tracks appear to meet in the distance. **B. HALLUCINATIONS.** Under influences of drugs, illness, or other physiological disturbance we may perceive stimulus objects that are not physically present: hearing voices.

— MOTIVATION —

17. DRIVES. A. PRIMITIVE BIOLOGICAL FACTORS. 1. In an elementary sense any stimulus is a motivator. Some stimuli are generated from our own body processes: changes that take place as we become hungry, thirsty, cold, tired, emotional, etc. Such changes are presumed to generate activity in internal sense organs with these stimuli then initiating restlessness or random activity. 2. Body tissue changes are termed drives. The stimuli emanating from drives are called drive stimuli (S_d). **B. FUNCTIONS OF DRIVE STIMULI.** At first, only random activity can be expected (as with an infant that is in pain from colic). As drives are reduced or eliminated by some specific behavior, that behavior comes to be learned as a response to the stimulation. **C. LEARNED DRIVES.** 1. Some body conditions like those that prevail during emotion (fear), also can be thought of as drives. At first these only occur when some appropriate stimulation is present. Because other stimuli may also be present, the emotional pattern or drive may become attached to these stimuli through conditioning (see 21). Subsequently the drive may be initiated by some formerly inadequate stimulus: Being bitten by a dog may result in fear of a bark. 2. Assuming that a variety of emotional patterns can be so conditioned, we could then have a great many stimuli for drives in addition to those not involving conditioning. NOTE: O. H. Mowrer suggests that hope is another learned drive.

18. HUMAN MOTIVATION. A. SOCIAL MOTIVES. 1. On the human level we do not usually observe behavior stemming immediately from biological drives. Instead we postulate such motives as a desire for prestige, a need for companionship, attention, power, etc. These social motives are presumed to be drive states that are learned, based on an assumed anxiety which, in turn, is learned as a fear pattern to various stimuli (lack of money, loneliness, etc.). 2. On the positive side, parents who satisfy basic needs become secondary reinforcers (see 24-B) as do other social stimuli and these come to arouse wants, wishes, etc. (See C below). **B. SETS AND WANTS.** 1. When a primary drive is reduced or satisfied, the goal responses (consumption of food and attendant emotional responses of relaxation) tend to come forward in time on future trials. They become anticipatory or antecedent. 2. This can only be in terms of part or a fraction of the actual goal response because some of the total goal response depends on the presence of other stimuli: food in the mouth. Such fractional anticipatory goal responses (r_g) can be thought of as the equivalents of attention, interest, sets, wishes, wants, desires, etc.; and (a) They occur in advance of the appearance of the goal (b) They are responses and can become conditioned to other stimuli. (c) They depend on prior experience. (d) They prepare the organism for the goal response. **C. MOTIVES AND ATTITUDES.** Attitudes are "all that we think and feel about some object, place, person, etc." Such attitudes or sets amount to anticipatory emotional reactions that have been previously aroused in connection with the stimuli involved. (1) They prepare the organism for the action of responding to the anticipated stimulus; (2) restrict field of attention (3) when resistant to change are called prejudices.

19. RELATION OF MOTIVATION TO OTHER PSYCHOLOGICAL AREAS. A. LEARNING. 1. Drives and drive reduction are basic for learning (Hull). Drives determine action and there is no learning without action. 2. Learning is dependent upon attention, which is often related to motivation. 4. Retention is dependent upon motivation. Unpleasant or traumatic experiences are often repressed or forgotten (Freud). **B. PERCEPTION.** Through the control of sets or attitudes, we may perceive only what we want to see. Various needs

(hunger, sex) may affect dreams (a kind of perception) or our estimate of the relative desirability of stimuli: estimated size of a coin might depend upon one's relative wealth. **C. EMOTION.** Strong emotion may function as a drive both for action and learning. **D. CONFLICT AND PERSONALITY.** The basis for conflict is the antagonism between motives. According to Freudian doctrine, some motives are unconscious and express themselves in dreams, accidents, slips of tongue, etc.

— LEARNING —

20. NATURE OF LEARNING. Our knowledge of learning is based on inferences from performance. **A. DEFINITION.** Learning is a change in performance resulting from practice. 1. The change is frequently assumed to relate to some hypothetical change in the nervous system (new connections, lowering of resistances at synapses). Usually carries the implication of greater efficiency (smoother, faster, freer from errors). 2. The nature of the practice is usually assumed to be not mere repetition, but reinforced repetition or correct occurrence. **B. PAVLOVIAN ("CLASSICAL") LEARNING.** Based on Pavlov's work with salivary responses of dogs. **C. INSTRUMENTAL ("OPERANT") LEARNING.** Originally based on Thorndike's work with cats which emphasized trial and error. So called because the learner operates on his environment, and his activity is instrumental in changing it usually to point of bringing about some reward.

21. CLASSICAL CONDITIONING. A. SUBSTITUTION OF CONTIGUOUS STIMULI. 1. Originally an unconditioned (natural, usual, or appropriate) stimulus is required for some specific response called the Unconditioned Response (UR). 2. By presenting another (neutral, inadequate, or inappropriate) stimulus called the Conditioned Stimulus (CS), just before the normal Unconditioned Stimulus (US), a new connection is presumed to be made between the CS and the UR, as in (a). Sometimes a diagram is drawn to show some Association Center (AC) where the new connection is supposed to be formed (b). The solid lines show original connections; the dotted lines, acquired or learned connections. **B. HIGHER ORDER CONDITIONING.** After basic conditioning takes place, a CS can now be used as a US for further conditioning by introducing a new CS and using the old CS to elicit the response. **C. GENERALIZATION.** Once conditioning has been established, other stimuli similar to the original in quality or quantity can also elicit the CR, although with diminishing efficiency as the similarity to the original decreases. 1. Generalization is greatest in the early stages of learning; with continued training it decreases. 2. Generalization is a "something-for-nothing" operation. In effect, we do not have to learn everything we know.

22. EXTINCTION. A. EXPERIMENTAL EXTINCTION. When the CS is followed by the US, conditioning is maintained and strengthened. If the US is omitted, the CR gradually diminishes. **B. SPONTANEOUS RECOVERY.** After a period of time, an extinguished response may again be elicited by a CS. Subsequent extinction occurs more rapidly until there is no further spontaneous recovery. **C. GENERALIZATION OF EXTINCTION.** Extinguishing the original CS will also result in the reduction of the response to generalized stimuli. **D. THEORETICAL POSITIONS.** 1. It is widely held that extinction amounts to new learning (counter conditioning). 2. Pavlov thought of it as the spread of internal inhibition. 3. Hull claimed any response generates some reactive inhibition, a state analogous to fatigue. This serves as a negative drive leading to a resting response. The CS comes to elicit this resting response if it is given frequently enough. **E. DISCRIMINATION.** 1. If a specific CS is reinforced while another on the continuum is not, the organism comes to respond to the first but not to the second. 2. This procedure, with generalization and allows the organism to respond only to appropriate stimuli.

23. INSTRUMENTAL CONDITIONING. A. THE BASIC PRINCIPLE. The substitution of responses: 1. Organisms are said to emit responses. 2. Learning depends on the outcome of behavior. 3. If a response is followed by a reinforcer (reward) its habit strength is said to be increased. 4. Instrumental conditioning usually involves the whole organism. **B. DIFFERENCES FROM PAVLOVIAN CONDITIONING.** Pavlov emphasized stimuli and that stimuli elicit responses. The reinforcers come before the response. Pavlovian learning usually applies only to one organ or system. **C. SIMILARITIES.** 1. Generalization, extinction, spontaneous recovery, and discrimination are common to both. 2. Secondary reinforcement corresponds somewhat to higher order conditioning. **D. OTHER THEORETICAL POSITIONS.** 1. Pavlovian learning applies only to ANS phenomena. 2. Instrumental conditioning is not required for learning; mere contiguity of stimulus is enough. 3. Only Pavlovian conditioning requires reinforcement. (K. Spence argues that food is an US and a reward). 4. Instrumental learning is more like voluntary behavior, less stimulus-bound.

24. THE PRINCIPLE OF REINFORCEMENT. A. PRIMARY REINFORCEMENT. 1. LAW OF EFFECT. (E. L. Thorndike, 1898.) S → R bonds are strengthened when the response is followed by a satisfying state of affairs (one the organism does nothing to avoid, frequently strives to attain). S → R bonds are weakened when the response is followed by an annoying state of affairs (one the organism does nothing to attain, frequently strives to avoid). In 1932, Thorndike dropped the second part of the law, having concluded that punishment does not weaken bonds. 2. THE LAW OF PRIMARY REINFORCEMENT. Hull's restatement of the Law of Effect: When a response is followed by a decrease in a drive, the reinforcement between any stimulus and that response are strengthened. 3. LAW OF REINFORCEMENT. B. F. Skinner: When any response is followed by a reinforcer (anything that has been found to increase the rate of the response), the probability of recurrence of that response is strengthened. **B. SECONDARY REINFORCEMENT.**

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DATA-GUIDE PLASTIC CHARTS CONTAIN NO PAPER —

1. A basic concept in explaining human learning. Any stimulus that accompanies a **primary reinforcer** (food) will acquire similar reinforcing properties. 2. **ILLUSTRATION:** Animals will learn the path to a goal in a maze if the goal is of the same color as a food box, even if there is no food there. 3. **THE ROLE OF PUNISHMENT.** 1. **SKINNER.** Punishment merely **suppresses** behavior. To get rid of behavior it must be allowed to occur without reinforcement, i.e., it must **extinguish**. 2. **MOWSER** (1960). Revived punishment as an important factor. (a) When punishment follows some response, it **inhibits** such behavior through (fear). (b) When an organism is punished (hurt) when not doing something, it learns to **escape** from such situations by performing whatever response is necessary. (c) Later it **avoids** the punishment if it can **respond** before the punishment is presented if some appropriate warning signal is presented. (d) In general, Mowser holds that **emotional states** serve to guide **adjustive** behavior.

25. **HUMAN LEARNING.** A. **RELATION TO CONDITIONING.** 1. Skinner's generalization that learning is another form of instrumental behavior. The acquisition of speech has not been satisfactorily explained. Once speech is learned, it is then a matter of reinforcing certain patterns.

26. **RESEARCH ON VERBAL LEARNING.** Herman Ebbinghaus (1880) introduced **nonsense syllables** (two consonants and a vowel: "zom") as material for memory study. A. **SERIAL ORDER.** The subject learns a list, presented one at a time by some automatic device (memory drum). The usual pattern of learning shows: 1. First few and last few syllables are learned **earlier** than the rest, with most difficulty just beyond the **middle** of the list. 2. Grouping the results of a number of subjects will show a **negatively accelerated** learning curve: i.e., learning is slower in the later trials. 3. Distributed (spaced) practice is better than massed practice: i.e., fewer trials are required if rests are allowed between trials. 4. Learning is facilitated by prior familiarization with the syllables. 5. Active learning (trying to anticipate guessing) is better than passive. 6. Nonsense syllables with high association values (subject reminded of meaningful words) are learned more easily than low association value syllables. 7. Meaningful words are learned better than nonsense materials. 8. The learning speed varies with the total number of units; becomes progressively poorer with additional units. 9. Remote associations are formed so that a syllable early in the list may invite a response of a syllable later in the list—such remote associations **interfere** with the learning. B. **PAIRED ASSOCIATES.** The syllables are presented as pairs with the first syllable serving as a stimulus. The learner has to respond with the appropriate mate. 1. The learning speed varies with the number of pairs. 2. Subjects tend to transform syllables into meaningful words which then serve as bridges or mediators. 3. Subjects tend to concentrate on one pair at a time, and few pairs are learned in one trial. The additional trials are required to learn additional syllables. 4. Learning is subject to various influences of familiarity and similarity, the former facilitating and the latter hampering learning. C. **THE LEARNING OF SKILLS.** 1. **SENSORIMOTOR LEARNING.** Following a moving target with a pointer exemplifies a sensorimotor skill, while learning meaningful words exemplifies a verbal task. In most tasks, there are both sensorimotor and verbal components. 2. **EARLY STUDIES.** Investigations with telegraphy have shown that: (a) There are substantial differences between individuals in the speed with which learning occurs. (b) Many subjects showed plateaus or lengthy periods of no improvement. The latter have been attributed to the presence of habit hierarchies or levels of habits.

27. **RETENTION AND FORGETTING.** There are no good or bad memories, only good or bad learners. A. **FACTORS IN FORGETTING.** 1. **TIME.** A few choices postulate a factor of disuse: i.e., that neural bonds weaken when not used; however, the evidence is meager. 2. **INTERFERENCE.** Most theorists favor a competition or interference view. If original learning consists of $S_1 \rightarrow R_1$ and the subject now learns $S_2 \rightarrow R_2$ or if some generalized form of S_1 is involved, he will then be unable to recall R_1 because R_2 keeps recurring. This corresponds to an interference theory of extinction. B. **MEASURES OF RETENTION.** Recall, recognition, and relearning. Usually if one relearns forgotten material, it takes less time or effort than originally. The percent of effort saved is called a **savings score**. C. **RETROACTIVE INHIBITION.** The interference hypothesis applies to a standard experimental situation:

	1. BASIC DESIGN:	A	B	TION FOR B
Experimental group	Yes	Yes	Yes	Yes
Control group	Yes	No	Yes	Yes

The interpolated material B can be learned at any time after the original material A is learned and at any time before the test for A. 2. **FINDINGS.** (a) The degree of interference is less if either A or B is learned well; (b) it is greatest with incomplete learning; (c) the degree of interference increases with the similarity between the materials learned in A and B. D. **GENERAL CONCLUSIONS.** If nothing new is learned after the learning of some response, that response will not be forgotten. Experiments with subjects who learn something just prior to sleep indicate that less is forgotten than in normal daytime. E. **THE EFFECT OF FORGETTING.** 1. **INADEQUATE ORIGINAL LEARNING.** If original learning is low in strength, retention should not be expected. People sometimes learn without conscious intention of remembering. Intention to remember appears to be helpful but incidental learning (learning without intent) has been regularly shown to yield poor retention. 2. **INADEQUATE STIMULATION.** If the stimuli presented are different from the original, we can expect poor retention. A question asked in an unfamiliar way will not elicit the desired answer. 3. **EMOTIONAL FACTORS.** Freud held that even mildly traumatic incidents might be repressed or driven into some unconscious level. Some psychologists argue that unpleasant events are more readily forgotten than pleasant.

28. **TRANSFER OF TRAINING.** The influence of past experience on future behavior. Transfer must be thought of as positive or negative. A. **PROACTIVE INHIBITION.** The terms implies negative transfer, however, it is evaluated in the

same situation as is positive transfer.

	1. EXPERIMENTAL DESIGN:	A	B	TION FOR B
Experimental group	Yes	Yes	Yes	Yes
Control group	Yes	No	Yes	Yes

2. **EFFECTS.** If the experimental group retains B better, the effects of learning A are assumed to have transferred positively to learning B. If B is retained less well, the effects are considered negative. Usually negative effects are due to interference. Positive effects are assumed to be due to the easier learning of identical elements (Thorndike) or to familiarity with the responses and/or stimuli. B. **TRANSFER AND RETROACTIVE INHIBITION—OSGOOD'S LAWS.** Attempted to describe the relationships between transfer and retroactive inhibition in the following laws (from E. R. Hilgard): 1. If new stimuli are similar to old and responses are identical, transfer is positive and high. 2. If new stimuli are less similar and responses still identical, positive transfer is lower. In both of these conditions, recall of original learning is high. 3. If stimuli are identical but responses only similar, there is little or no transfer and some interference in recall of the original. 4. If stimuli are identical but responses are different, the transfer effects will be negative and recall of original material greatly hampered. 5. If both stimuli and responses are neutral, there will be no systematic effects.

29. **THINKING AND PROBLEM SOLVING.** A. **CHARACTERISTICS OF THINKING.** 1. Occurs when there is not immediately available and appropriate habit. 2. Involves a delay between the stimulus and response. The thinking, if any, goes on during this delay. 3. Essentially a covert, inner activity which we know only by inferences from behavior. 4. It is a symbolic activity, assumed to be mediational, i.e., it connects the external stimuli with a series of internal responses which in turn stimulate some overt response. B. **THE TOOLS OF THINKING.** The mediational activity can be described as pure stimulus acts which might take various forms: 1. Movement-produced stimuli. 2. Sub-vocal verbal behavior. Watson described much thinking as amounting to "talking to yourself." 3. Fractional antecedent responses (r_g) are partial aspects of previously learned goal responses. Such r_g 's can produce stimuli which may then initiate some overt activity. 4. Neural processes. D. O. Hebb postulated recurrent neural circuits or cell assemblies become organized in chains called phase sequences and can be self-completing when initiated. Such sequences amount to thoughts or thinking. C. **THINKING AS SUBSTITUTE ACTIVITY.** 1. All of the above pure stimulus acts are substitutes for directly observable behavior. 2. One substitute activity follows another until some successful or unsuccessful overt activity is initiated. Thinking is thus covert "trial and error." 3. Solutions of problems cannot be predicted. Even with the necessary background, wrong set (improper perception of elements, etc.), may interfere with successful associations.

30. **INSIGHT AND PROBLEM SOLVING. A. THEORY.** The Gestalt psychologists argue that thinking is essentially a matter of insight, which in turn, amounts to a "dynamic reorganization of the perceptual field," i.e., the successful thinker comes to see the relationships between the parts of a problem in a new light. Insight is related to the concept of understanding or "getting the principle." B. **CHARACTERISTICS OF INSIGHT.** Insight may not occur for a long time; when it does, it is sudden and is retained for a relatively long period. C. **OBJECTIONS.** Behaviorists claim that solutions come only from past experience. All successful solutions must come suddenly because they are the last trials. Insight is just a label, it explains nothing. Frequently the problem solver cannot explain how he solved the problem and may show little understanding. D. **THINKING AND REASONING.** 1. Reasoning is concerned with the rules of logic and accuracy of problem solving.

31. **EMOTIONAL BEHAVIOR. A. CHARACTERISTICS.** 1. Emotional reactions involve the ANS. When considering emotion we usually are concerned with strong sympathetic action. 2. Emotions are disorganizing; however, R. Leeper argues that unless extreme in nature, emotions can be organizing and may serve as drives. B. **KINDS AND NUMBER OF EMOTIONAL EXPRESSIONS.** 1. Some believe there is only one internal emotional state: excitement. Variations in expression come in terms of stimuli. 2. Bridges: We are born with a capacity for excitement, but by maturation, other emotional expressions can be differentiated. In the first year or so of life. Excitement provides the basis for distress and delight. Out of delight grow elation and affection while out of distress anger, fear, and disgust. 3. Watson: We are born with three basic patterns: fear, anger, and love. By conditioning, these become attached to a variety of stimuli and make up our emotional reactions. C. **CURRENT VIEWS.** The number and kinds of emotional experience cannot be accurately determined because they cannot be readily identified. The most acceptable judgments are made when stimuli are known, thus emotion is a matter of interpretation of stimulus effects.

32. **THEORIES OF EMOTION. A. THE JAMES-LANGE THEORY.** Emotional experience is the awareness of bodily changes as they occur. Emotion comes after some perception and response to some stimulus. If fear the because we run this view reverses the usual interpretation. Emotions become the results rather than causes of behavior. B. **THE CANNON EMERGENCY THEORY.** 1. Emotions are reactions to stress and danger. They are homeostatic adjustments that prepare the body for "flight or fight." 2. Emotions result when the hypothalamus (in the mid-brain) is subjected to intensive stimulation. Presumably the ANS in turn is stimulated with resulting increases in heart rate, adrenalin secretion, etc. 3. In opposition to James, Cannon regarded the awareness of bodily changes as prior to, or simultaneous with, overt action. C. **THE SCHLOSSBERG THEORY.** Emotional facial expressions can be described in three dimensions: (1) a pleasant-unpleasant continuum; (2) an attention-rejection continuum (concentrated vs. diffuse or positive vs. negative); (3) an intensity dimension (from sleep to excitement). D. **THE DUFFY THEORY.** Emotions can best be described in terms of an intensity dimension and a directional

dimension (approach or avoidance).

33. **RELATION OF EMOTION TO OTHER STATES OR CONDITIONS. A. LEARNING.** 1. The conditioning of emotions (particularly fear) is widely accepted. Some emotions—like fear—have indirect learning features in that we must acquire some experience before we can be frightened by such things as the dark, snakes, corpses. 2. Hebb says we must first learn how to behave in the absence of such stimuli; their appearance leaves us without a useful response. B. **MOTIVATION.** Fear is widely postulated as a drive and, with other similar drives, serves to control behavior through the feedback of stimuli generated by responses that arouse the drives. C. **PHYSIOLOGY.** Chronic action of the ANS is alleged to be a factor in psychosomatic illness. According to Selye, stress may result in a three-phased pattern: an alarm reaction (a shock state), a resistance phase, and a final exhaustion phase. These phases follow extreme and prolonged stress, together they are called the general adaptation syndrome.

— ABNORMAL BEHAVIOR —

34. **CONFLICT AND FRUSTRATION.** Frustrations are the result of interference with progress toward a goal. Conflicts are presumed to arise from opposing forces, stimuli, motives, or emotions which make progress difficult or impossible.

A. **TYPES OF CONFLICTS.** (Neal Miller): 1. **APPROACH-APPROACH.** The organism is stimulated to approach two different objects. Solution: approach one, then the other. 2. **AVOIDANCE-AVOIDANCE.** The organism is caught between two negative stimuli ("devil and the deep blue sea"). Solution: get out of the field, if possible. 3. **APPROACH-AVOIDANCE.** The organism is stimulated to approach some goal; at the same time the approach involves danger. Solution: depends on strength of drives, degree of danger, etc. If positive and negative aspects are nicely balanced, there will be vacillation, hesitation, resort to compromises, retreats into some dense activity which quiets the anxiety, or some delay until the conflict is not solved. 4. **DOUBLE APPROACH-AVOIDANCE.** Two attracting stimuli affect the organism; approaching one means irretrievable loss of the other. Solution: similar to 3. above. B. **ASSUMPTIONS OF MILLER'S THEORY.** 1. The tendency to approach a goal depends on the distance to the goal just as the tendency to avoid depends on nearness. The strength of the tendencies to approach or avoid varies as a gradient; the slope of the negative gradient is steeper than that of the positive. This permits the gradients to cross. 2. The height of gradients can be changed by changes in drive.

35. **CONSEQUENCES OF CONFLICT. A. FRUSTRATION.** In general, conflict can be assumed from signs of hesitation, vacillation, and behavior patterns associated with frustration. Reactions will vary with past experience (degree of learned frustration tolerance) but in general we can expect: 1. **APATHY.** Substitution of goals, various defensive tactics. (See B.) 2. **AGGRESSION.** Usually directed at the source of the frustration. If it is impervious to assault, aggression may be displaced on innocent objects or persons. If the frustration is perceived as self-caused, aggression may be turned against the self. B. **DEFENSE MECHANISMS (FREUDIAN).** To escape conflict by resorting to forms of temporary adjustment: 1. **REPRESSION.** A form of forgetting of unpleasant or traumatic events (they are pushed into the unconscious). 2. **REGRESSION.** A falling back to old habits or methods of attaining goals (crying). 3. **REACTION FORMATION.** Over-reacting in the opposite direction (showing affection on someone who is not loved). 4. **PROJECTION.** Attributing one's faults, weaknesses, wishes, to others. 5. **RATIONALIZATION.** A form of compensation (engaging in a substitute activity). 6. **RATIONALIZATION.** Finding excuses for already committed errors.

36. **BEHAVIOR DISORDERS. A. DEFINITIONS.** 1. **STATISTICAL.** Abnormal people are those at the extremes of the normal probability curve on any measurable trait. 2. **IDEAL.** Some ideal normality must be defined in terms of health, etc., deviations from the ideal would be abnormal. 3. **ADJUSTMENT.** People are not abnormal if they are getting along: An anti-social person might make a satisfactory "space man." B. **CAUSES OF ABNORMAL BEHAVIOR. 1. STRUCTURAL OR ORGANIC DISORDERS.** The result of brain injury, disease, or faulty physical development, etc. 2. **FUNCTIONAL DISORDERS.** Assumed to be learned because no physiological defect can be found. 3. **GENERAL.** Assumed as consequences of faulty training, disturbing experiences; thus, definitions are learned in environmental effects. C. **TYPES OF DISORDERS. 1. NEUROTICS.** People with relatively mild disorders, characterized by inefficiency, complaints, ineffective defenses. 2. **PSYCHOTICS.** (Schizoid, Paranoid, etc.) Severely disturbed, marked by inadequate reality orientations (misinterpret own and others' roles); often require hospitalization.

37. **THERAPIES.** Because of the assumption that the disorder is learned, therapy basically amounts to retraining or relearning. A. **INTERPRETATIVE.** (Directive, Freudian, analytic). The patient reports on memories, dreams, his attitudes, etc., while the therapist tries to discover hidden (from the patient) meanings, uncover original and forgotten causes and have the patient acquire more adjustive reactions to stimuli previously arousing anxiety. B. **NON-DIRECTIVE.** (Client-centered, Rogerian). The patient is believed capable of effecting his own cure through assumed processes of inner growth if allowed to talk freely in a "permissive" atmosphere while the therapist echoes and clarifies the patient's feelings. C. **RECIPROCAL INHIBITION.** (Wolpe) The patient first ranks the stimuli that cause him anxiety. Starting with the lowest of these, the therapist tries to extinguish the anxiety responses by counter-conditioning responses of relaxation. D. **SYMPTOM TREATMENT.** Skinner advocates extinction through non-reinforcement of undesirable behavior.

— PERSONALITY —

38. **METHODS OF PERSONALITY MEASUREMENT OR ASSESSMENT. A. DEFINITION PROBLEM.** 1. G. Allport listed over 50 definitions emphasizing individual differences, biological and social factors, social stimulus values (popularity). 2. The organization of traits. The distinction distinguishes one person from another provides the closest agreement among the definitions. B. **ROLE PLAYING.** People behave differently in various situations (father, judge, teacher) complicating personality assessment. C. **THE TEST**

39. **PERSONALITY TESTS** usually do not involve correct answers. They are often "projective" in nature. The subject is presumed to reveal his nature in his responses to ambiguous stimuli (ink-blot, clouds) or to pictures of people in various scenes (Thematic Apperception Test, TAT). D. **INVENTORIES.** 1. Subjects indicate preferences, modes of action in common situations, symptoms. Patterns of answers are studied to determine profiles. 2. Difficult to validate tests since there is no accepted measurement criterion. 3. **Minnesota Multiphasic Personality Inventory (MMPI):** designed to get at numerous areas or sources of disturbance. E. **TYPOLOGY (THE APPROACH THROUGH THEORY).** 1. A preconceived view might hold that people can be divided into types: introverts and extroverts (Jung), or as by Spranger, into theoretical, aesthetic, economic, political, social, and religious types. 2. Inventories or questionnaires are then devised to determine to what degree a person may share these interests. F. **RATING SCALES (THE TRAIT APPROACH).** The most common tool. 1. Lists of adjectives are supplied, marked off on a graded line into varying numbers of steps labeled very much, average, very little, etc. The rater indicates how, in his judgment, a given subject fares with respect to some trait. 2. **SHORTCOMINGS.** (a) Too few adjectives resulting in emphasis on cardinal or general traits. (b) Too many "yes-no" judgments; need graded (continuous) steps. (c) Raters frequently operate under a halo effect: they form some general evaluation and then rate all traits fairly uniformly. G. **CLASS-MEMBERSHIP APPROACH.** Inferences about personality are drawn from the social and economic status of a person or his family; his political affiliations, clubs, job, racial or national origins, etc. H. **GOALS AND ASPIRATIONS APPROACH.** 1. Assumes that individuals are motivated differently by common goals: the need to be loved, to dominate, to attain prestige, etc. 2. Needs are assessed by questionnaires, interviews, projective tests, etc. I. **PHYSICAL MEASUREMENT.** 1. Some assume that body type is related to personality traits: fat (pyknic, endomorph); lean (asthenic, ectomorph); or in-between (athletic, mesomorph). J. **RESULTS OF INVESTIGATIVE TECHNIQUES.** There has been little or no success in typing people. They tend to spread out on all kinds of measurements into normal distributions with a small percentage at the extremes, most in the middle.

39. **THE INTERACTION OF THE EXTERNAL ENVIRONMENT, THE INNERED BODY AND THE PERSONALITY. A. THE FREUDIAN VIEW.** (1) Men go through the same phases of sexual development; (2) pass, or fail to pass, through an Oedipal phase (strong attachment to the mother, antagonism toward the father); (3) are subject to the same pressures or goals (satisfying unconscious id urges) which may be in conflict with other goals (conscience or Superego). B. **THE JUNGIAN VIEW.** Man is unconsciously guided by the experience of his race. C. **THE ADLER VIEW.** Life is devoted to attainment of power as a compensation for felt inferiority. D. **THE BEHAVIORIST VIEW.** Personality amounts to learning specific habits to specific stimuli with generalization to unfamiliar situations. E. **CULTURAL INFLUENCES.** Anthropologists have forced psychologists to incorporate a cultural view: to take account of ways of child rearing, customs, rules, etc. Differentiate vast differences in attitudes and behavior with regard to the same stimuli (money, women, death, etc.).

— SOCIAL FACTORS —

40. **THE STRUCTURE OF SOCIETY.** The culture (arrangements for group living) determines many aspects of daily life: work choice, marriage partners, age of education, etc. The culture especially restricts adolescents from activities for which they are physically qualified (marriage, work, etc.).

41. **THE GROUP.** Not merely an aggregate of people, members must have common motives and interact with each other. Some groups (an audience) may have a common motive but no interaction. A. **PRESSURES FOR CONFORMITY.** Often strong enough to make a person deny the evidence of his senses; the strength of the pressures depends upon the number of influencing people, their sex, status, etc. B. **THE LARGE GROUP.** An individual can lose himself in it (anonymity), reduce personal responsibility, and increase his personal safety and strength. Crowds may do things no individual would or could do by himself. C. **THE SMALL GROUP.** Here, there may be pressures for conformity which are more argument. Committees, like crowds, can take "group" action without personal responsibility. This may lead to corporate or institutional thinking in which a reality is conferred upon non-existent things: A university or a union looked on as existing independently of the people who make it up.

42. **LEADERSHIP—THE INFLUENCE OF AN INDIVIDUAL ON A GROUP.** The people who are to be led determine the nature and qualifications of a leader. A. **THEORIES OF LEADERSHIP.** 1. **THE GREAT MAN.** A leader will not be denied. Because of inherent qualities he will rise to leadership, more or less regardless of circumstances. 2. **THE TIMES MAKE THE MAN.** At crucial periods men who express the mood and goals of a group will be forced into leadership. The same man in other times might prove unleaderlike.

43. **GROUP DYNAMICS.** Interaction of group members. A. **THE PROBLEM OF COHESION.** 1. Group morale. 2. Mutual respect and subservience of individuals for the goals of the group. 3. Cohesiveness may be measured by special questionnaires or "sociograms." Group members secretly indicate which members of a group are liked and disliked by them; the likes and dislikes are then plotted to determine patterns of approval and rejection. B. **THE FORMATION OF GROUPS.** Groups are formed when a mutual problem faces a number of individuals and where individual effort is inadequate to the task. C. **SURVIVAL OF GROUPS.** Groups often create reasons to continue after the original problems are solved. They adopt new goals or merge with others.

44. **SOCIAL CONTROL. A. EDUCATION.** A society controls the curriculum and methods of education. B. **PROPAGANDA.** Usually a one-sided presentation of issues with the purpose of persuading only one view using techniques like: (1) repetition; (2) the "band-wagon" approach ("everybody's doing it"); (3) "plain folks" (the "common people" are with us); (4) glittering generalities ("this great and glorious cause"); (5) "scape-goating" (blaming defenseless groups).

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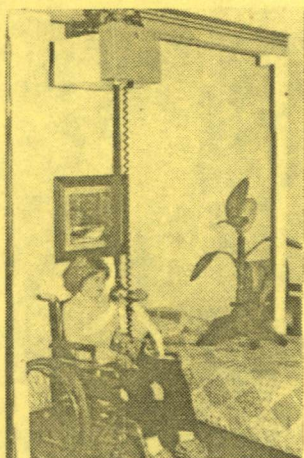
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