

THE UNIVERSITY OF CHICAGO PRESS

# LIBRARY

Brigham Young University

FROM .....

Call  
No. ....

Acc.

No. ....

19433



GIFT

TO THE B. Y. U. LIBRARY

By

*J. L. Brown*

2  
J. L. Brown,



150  
123 b

AMERICAN SCIENCE SERIES, BRIEFER COURSE

---

# PSYCHOLOGY

BY

WILLIAM JAMES

*Professor of Psychology in Harvard University*



NEW YORK

HENRY HOLT AND COMPANY

1910

Copyright, 1892,  
BY  
HENRY HOLT & CO.

## PREFACE.

---

IN preparing the following abridgment of my large work, the Principles of Psychology, my chief aim has been to make it more directly available for class-room use. For this purpose I have omitted several whole chapters and rewritten others. I have left out all the polemical and historical matter, all the metaphysical discussions and purely speculative passages, most of the quotations, all the book-references, and (I trust) all the impertinences, of the larger work, leaving to the teacher the choice of orally restoring as much of this material as may seem to him good, along with his own remarks on the topics successively studied. Knowing how ignorant the average student is of physiology, I have added brief chapters on the various senses. In this shorter work the general point of view, which I have adopted as that of 'natural science,' has, I imagine, gained in clearness by its extrication from so much critical matter and its more simple and dogmatic statement. About two fifths of the volume is either new or rewritten. the rest is 'scissors and paste.' I regret to have been unable to supply chapters on pleasure and pain, æsthetics, and the moral sense. Possibly the defect may be made up in a later edition, if such a thing should ever be demanded.

I cannot forbear taking advantage of this preface to make a statement about the composition of the 'Principles of Psychology.' My critics in the main have been so indulgent that I must cordially thank them; but they have been unanimous in one reproach, namely, that my

order of chapters is planless and unnatural; and in one charitable excuse for this, namely, that the work, being largely a collection of review-articles, could not be expected to show as much system as a treatise cast in a single mould. Both the reproach and the excuse misapprehend the facts of the case. The order of composition is doubtless unshapely, or it would not be found so by so many. But planless it is not, for I deliberately followed what seemed to me a good pedagogic order, in proceeding from the more concrete mental aspects with which we are best acquainted to the so-called elements which we naturally come to know later by way of abstraction. The opposite order, of 'building-up' the mind out of its 'units of composition,' has the merit of expository elegance, and gives a neatly subdivided table of contents; but it often purchases these advantages at the cost of reality and truth. I admit that my 'synthetic' order was stumblingly carried out; but this again was in consequence of what I thought were pedagogic necessities. On the whole, in spite of my critics, I venture still to think that the 'unsystematic' form charged upon the book is more apparent than profound, and that we really gain a more living understanding of the mind by keeping our attention as long as possible upon our entire conscious states as they are concretely given to us, than by the *post-mortem* study of their comminuted 'elements.' This last is the study of artificial abstractions, not of natural things.\*

---

\* In the present volume I have given so much extension to the details of 'Sensation' that I have obeyed custom and put that subject first, although by no means persuaded that such order intrinsically is the best. I feel now (when it is too late for the change to be made) that the chapters on the Production of Motion, on Instinct, and on Emotion ought, for purposes of teaching, to follow immediately upon that on Habit, and that the chapter on Reasoning ought to come in very early, perhaps immediately after that upon the Self. I advise teachers to adopt this modified order, in spite of the fact that with the change of place of 'Reasoning' there ought properly to go a slight amount of re-writing.

But whether the critics are right, or I am, on this first point, the critics are wrong about the relation of the magazine-articles to the book. With a single exception all the chapters were written for the book; and then by an after-thought some of them were sent to magazines, because the completion of the whole work seemed so distant. My lack of capacity has doubtless been great, but the charge of not having taken the utmost pains, according to my lights, in the composition of the volumes, cannot justly be laid at my door.



# CONTENTS.

---

## CHAPTER I.

	PAGE
INTRODUCTORY . . . . .	1
Psychology defined; psychology as a natural science, its data, 1. The human mind and its environment, 3. The postulate that all consciousness has cerebral activity for its condition, 5.	

## CHAPTER II.

SENSATION IN GENERAL . . . . .	9
Incoming nerve-currents, 9. Terminal organs, 10. 'Specific energies,' 11. Sensations cognize qualities, 13. Knowledge of acquaintance and knowledge-about, 14. Objects of sensation appear in space, 15. The intensity of sensations, 16. Weber's law, 17. Fechner's law, 21. Sensations are not psychic compounds, 23. The 'law of relativity,' 24. Effects of contrast, 26.	

## CHAPTER III.

SIGHT . . . . .	28
The eye, 28. Accommodation, 32. Convergence, binocular vision, 33. Double images, 36. Distance, 39. Size, color 40. After-images, 43. Intensity of luminous objects, 45.	

## CHAPTER IV.

HEARING . . . . .	47
The ear, 47. The qualities of sound, 43. Pitch, 44. 'Timbre,' 45. Analysis of compound air-waves, 56. No fusion of elementary sensations of sound, 57. Harmony and discord, 58. Discrimination by the ear, 59.	

## CHAPTER V.

	PAGE
TOUCH, THE TEMPERATURE SENSE, THE MUSCULAR SENSE, AND PAIN . . . . .	60
End-organs in the skin, 60. Touch, sense of pressure, 60.	
Localization, 61. Sensibility to temperature, 63. The muscular sense, 65. Pain, 67.	

## CHAPTER VI.

SENSATIONS OF MOTION . . . . .	70
The feeling of motion over surfaces, 70. Feelings in joints, 74. The sense of translation, the sensibility of the semicircular canals, 75.	

## CHAPTER VII.

THE STRUCTURE OF THE BRAIN . . . . .	78
Embryological sketch, 78. Practical dissection of the sheep's brain, 81.	

## CHAPTER VIII.

THE FUNCTIONS OF THE BRAIN . . . . .	91
General idea of nervous function, 91. The frog's nerve-centres, 92. The pigeon's nerve-centres, 96. What the hemispheres do, 97. The automaton-theory, 101. The localization of functions, 104. Brain and mind have analogous 'elements,' sensory and motor, 105. The motor zone, 106. Aphasia, 108. The visual region, 110. Mental blindness, 112. The auditory region, mental deafness, 113. Other centres, 116.	

## CHAPTER IX.

SOME GENERAL CONDITIONS OF NEURAL ACTIVITY . . . . .	120
The nervous discharge, 120. Reaction-time, 121. Simple reactions, 122. Complicated reactions, 124. The summation of stimuli, 128. Cerebral blood-supply, 130. Brain-thermometry, 131. Phosphorus and thought, 132.	

## CHAPTER X.

HABIT . . . . .	134
Its importance, and its physical basis, 134. Due to pathways formed in the centres, 136. Its practical uses, 138. Concate-	

nated acts, 140. Necessity for guiding sensations in secondarily automatic performances, 141. Pedagogical maxims concerning the formation of habits, 142. PAGE

CHAPTER XI.

THE STREAM OF CONSCIOUSNESS . . . . . 151

Analytic order of our study, 151. Every state of mind forms part of a personal consciousness, 152. The same state of mind is never had twice, 154. Permanently recurring ideas are a fiction, 156. Every personal consciousness is continuous, 157. Substantive and transitive states, 160. Every object appears with a 'fringe' of relations, 163. The 'topic' of the thought, 167. Thought may be rational in any sort of imagery, 168. Consciousness is always especially interested in some one part of its object, 170.

CHAPTER XII.

THE SELF . . . . . 176

The Me and the I, 176. The material Me, 177. The social Me, 179. The spiritual Me, 181. Self-appreciation, 182. Self-seeking, bodily, social, and spiritual, 184. Rivalry of the Mes, 186. Their hierarchy, 190. Teleology of self-interest, 193. The I, or 'pure ego,' 195. Thoughts are not compounded of 'fused' sensations, 196. The 'soul' as a combining medium, 200. The sense of personal identity, 201. Explained by identity of function in successive passing thoughts, 203. Mutations of the self, 205. Insane delusions, 207. Alternating personalities, 210. Mediumships or possessions, 212. Who is the Thinker, 215.

CHAPTER XIII.

ATTENTION . . . . . 217

The narrowness of the field of consciousness, 217. Dispersed attention, 218. To how much can we attend at once? 219. The varieties of attention, 220. Voluntary attention, its momentary character, 224. To keep our attention, an object must change, 226. Genius and attention, 227. Attention's physiological conditions, 228. The sense-organ must be adapted, 229. The idea of the object must be aroused, 232. Pedagogic remarks, 236. Attention and free-will, 237.

CHAPTER XIV.

CONCEPTION . . . . .	PAGE 239
<p>Different states of mind can mean the same, 239. Conceptions of abstract, of universal, and of problematic objects, 240. The thought of 'the same' is not the same thought over again, 243.</p>	

CHAPTER XV.

DISCRIMINATION . . . . .	244
<p>Discrimination and association; definition of discrimination, 244. Conditions which favor it, 245. The sensation of difference, 246. Differences inferred, 248. The analysis of compound objects, 248. To be easily singled out, a quality should already be separately known, 250. Dissociation by varying concomitants, 251. Practice improves discrimination, 252.</p>	

CHAPTER XVI.

ASSOCIATION . . . . .	253
<p>The order of our ideas, 253. It is determined by cerebral laws, 255. The ultimate cause of association is habit, 256. The elementary law in association, 257. Indeterminateness of its results, 258. Total recall, 259. Partial recall, and the law of interest, 261. Frequency, recency, vividness, and emotional congruity tend to determine the object recalled, 264. Focalized recall, or 'association by similarity,' 267. Voluntary trains of thought, 271. The solution of problems, 273. Similarity no elementary law; summary and conclusion, 277.</p>	

CHAPTER XVII.

THE SENSE OF TIME . . . . .	280
<p>The sensible present has duration, 280. We have no sense for absolutely empty time, 281. We measure duration by the events which succeed in it, 283. The feeling of past time is a present feeling, 285. Due to a constant cerebral condition, 286.</p>	

CHAPTER XVIII.

MEMORY . . . . .	287
<p>What it is, 287. It involves both retention and recall, 289. Both elements explained by paths formed by habit in the brain, 290. Two conditions of a good memory, persistence and nu</p>	

merousness of paths, 292. Cramming, 295. One's native retentiveness is unchangeable, 296. Improvement of the memory, 298. Recognition, 299. Forgetting, 300. Pathological conditions, 301.

CHAPTER XIX.

IMAGINATION . . . . . 302

What it is, 302. Imaginations differ from man to man; Galton's statistics of visual imagery, 303. Images of sounds, 306. Images of movement, 307. Images of touch, 308. Loss of images in aphasia, 309. The neural process in imagination, 310.

CHAPTER XX.

PERCEPTION . . . . . 312

Perception and sensation compared, 312. The perceptive state of mind is not a compound, 313. Perception is of definite things, 316. Illusions, 317. First type: inference of the more usual object, 318. Second type: inference of the object of which our mind is full, 321. 'Apperception,' 326. Genius and old-fogyism, 327. The physiological process in perception, 329. Hallucinations, 330.

CHAPTER XXI.

THE PERCEPTION OF SPACE . . . . . 335

The attribute of extensity belongs to all objects of sensation, 335. The construction of real space, 337. The processes which it involves: 1) Subdivision, 338; 2) Coalescence of different sensible data into one 'thing,' 339; 3) Location in an environment, 340; 4) Place in a series of positions, 341; 5) Measurement, 342. Objects which are signs, and objects which are realities, 345. The 'third dimension,' Berkeley's theory of distance, 346. The part played by the intellect in space-perception, 349.

CHAPTER XXII.

REASONING . . . . . 351

What it is, 351. It involves the use of abstract characters, 353. What is meant by an 'essential' character, 354. The 'essence' varies with the subjective interest, 358. The two

great points in reasoning, 'sagacity' and 'wisdom,' 360. PAGE  
Sagacity, 362. The help given by association by similarity, 364.  
The reasoning powers of brutes, 367.

## CHAPTER XXIII.

CONSCIOUSNESS AND MOVEMENT . . . . . 370

All consciousness is motor, 370. Three classes of movement to which it leads, 372.

## CHAPTER XXIV.

EMOTION . . . . . 373

Emotions compared with instincts, 373. The varieties of emotion are innumerable, 374. The cause of their varieties, 375. The feeling, in the coarser emotions, results from the bodily expression, 375. This view must not be called materialistic, 380. This view explains the great variability of emotion, 381. A corollary verified, 382. An objection replied to, 383. The subtler emotions, 384. Description of fear, 385. Genesis of the emotional reactions, 386.

## CHAPTER XXV.

INSTINCT . . . . . 391

Its definition, 391. Every instinct is an impulse, 392. Instincts are not always blind or invariable, 395. Two principles of non-uniformity, 398. Enumeration of instincts in man, 406. Description of fear, 407.

## CHAPTER XXVI.

WILL . . . . . 415

Voluntary acts, 415. They are secondary performances, 415. No third kind of idea is called for, 418. The motor-cue, 420. Ideo-motor action, 432. Action after deliberation, 428. Five chief types of decision, 429. The feeling of effort, 434. Healthiness of will, 435. Unhealthiness of will, 436. The explosive will: (1) from defective inhibition, 437; (2) from exaggerated impulsion, 439. The obstructed will, 441. Effort feels like an original force, 442. Pleasure and pain as springs of action, 444. What holds attention determines action, 448. Will is a relation between the mind and its

PAGE

' ideas,' 449. Volitional effort is effort of attention, 450. The question of free-will, 455. Ethical importance of the phenomenon of effort, 458.

## EPILOGUE.

PSYCHOLOGY AND PHILOSOPHY . . . . . 461

What the word metaphysics means, 461. Relation of consciousness to the brain, 462. The relation of states of mind to their 'objects,' 464. The changing character of consciousness, 466. States of consciousness themselves are not verifiable facts, 467.

## Thank You for previewing this eBook

You can read the full version of this eBook in different formats:

- HTML (Free /Available to everyone)
- PDF / TXT (Available to V.I.P. members. Free Standard members can access up to 5 PDF/TXT eBooks per month each month)
- Epub & Mobipocket (Exclusive to V.I.P. members)

To download this full book, simply select the format you desire below

