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Carl Boring

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O. R. Lindsley: The Secret Life
of
William James

Reprinted from: William James
Unfinished Business
1969-A.P.A. Publication

The Secret Life of William James¹

OGDEN R. LINDSLEY

Prior to this meeting,² I had never considered William James an important instinct theorist. As I have been taught by Edwin G. Boring, I went immediately to the original source, James' *Principles of Psychology*; and, as I have been taught by B. F. Skinner, I computed some simple frequencies.

Between the first (see Figure 1) and last pages (see Figure 2) of James' *Principles* are 1,378 other pages—with only 59 (4%) devoted to instincts. Figure 3 shows the number of pages contained in each of his 28 chapters. He relegated instincts to eighth place. Space perception, the self, will, experience, the brain, thought, and discrimination—all of these earned more pages than did instincts.

This shows that James did not consider instincts of prime importance. Clearly, he was more of an early space theorist than an instinct theorist.

The number of pages per topic—although the only direct measure of that topic's importance to the author—is not a good index of the impact the writing will have on others. James' two greatest effects on others—the James-Lange theory (presented in the chapter on emotions), and the chapter on habits—took fourteenth and twenty-first place, respectively, in number of pages.

¹ Funds were provided for this research by Training Grant NB-05362, National Institute of Neurological Diseases and Blindness and Research Grant HD-00870, National Institute of Child Health and Human Development, United States Public Health Service, Department of Health, Education and Welfare to the Bureau of Child Research, University of Kansas.

² American Psychological Convention, Lecture-discussion series: *The Unfinished Business of William James*, Washington, D.C., September 1967.

THE PRINCIPLES
OF
PSYCHOLOGY

BY
WILLIAM JAMES
PROFESSOR OF PSYCHOLOGY IN HARVARD UNIVERSITY

IN TWO VOLUMES

VOL. I



NEW YORK
HENRY HOLT AND COMPANY

FIG. 1. The first and last pages of James' *Principles of Psychology*, Vol. 1.

pected must 'claim to represent or stand for' past originals, which is incompatible with their being mere images revived. The result is various confused and scattered mysteries and unsatisfied intellectual desires. But, why not 'pool' our mysteries into one great mystery, the mystery that brain-processes occasion knowledge at all? It is surely no different mystery to *feel* myself by means of one brain-process writing at this table now, and by means of a different brain-process a year hence to *remember* myself writing. All that psychology can do is to seek to determine *what* the several brain-processes are; and this, in a wretchedly imperfect way, is what such writings as the present chapter have begun to do. But of 'images reproduced,' and 'claiming to represent,' and 'put together by a unifying *actus*,' I have been silent, because such expressions either signify nothing, or they are only roundabout ways of simply saying that the *past is known* when certain brain-conditions are fulfilled, and it seems to me that the straightest and shortest way of saying that is the best.

For a history of opinion about Memory, and other bibliographic references, I must refer to the admirable little monograph on the subject by Mr. W. H. Burnham in the *American Journal of Psychology*, vols. I and II. Useful books are: D. Kay's *Memory, What It Is, and How to Improve It* (1893); and F. Fauth's *Das Gedächtniss, Studie zu einer Pädagogik*, etc., 1888.

END OF VOL. I.

THE PRINCIPLES
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VOL. II



NEW YORK
HENRY HOLT AND COMPANY

1913

FIG. 2. The first and last pages of James' *Principles of Psychology*, Vol. 2.

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grown up in ways of which at present we can give no account. Even in the clearest parts of Psychology our insight is insignificant enough. And the more sincerely one seeks to trace the actual course of *psychogenesis*, the steps by which as a race we may have come by the peculiar mental attributes which we possess, the more clearly one perceives "the slowly gathering twilight close in utter night."

THE END.

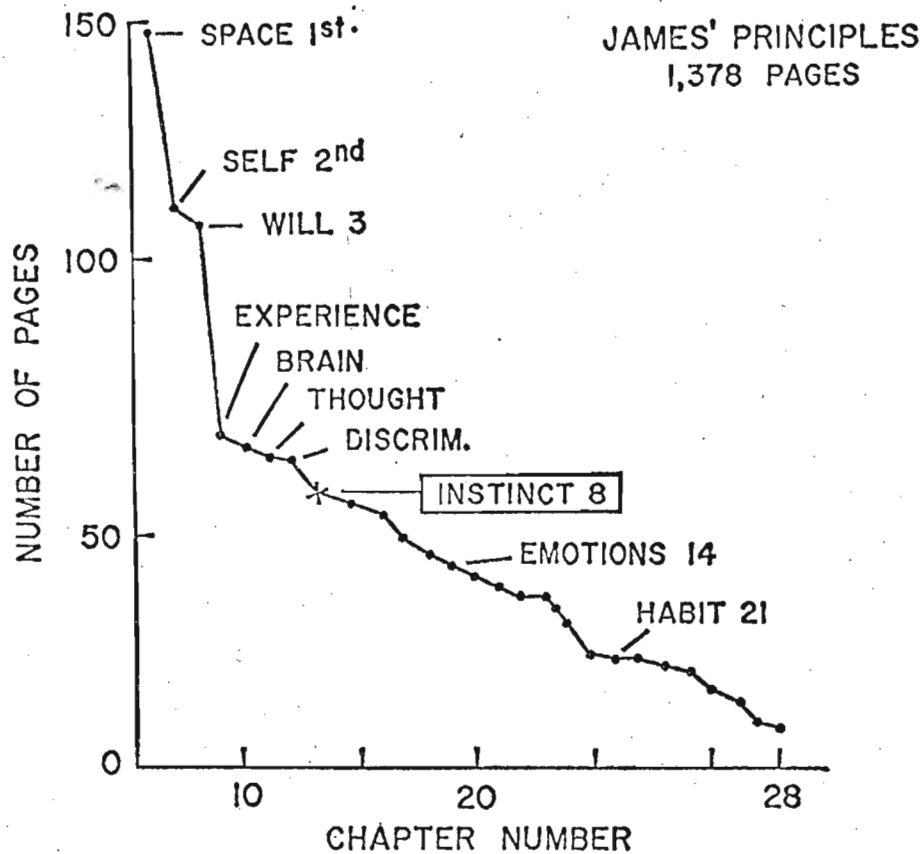


FIG. 3. This graph demonstrates the relatively low priority of instincts when ranked by number of pages devoted to the subject.

So let us look at some frequency counts of references in history of psychology textbooks to determine James' impact on others as measured by his impact on historians of psychology. Table 1 summarizes relevant references in two books published in 1929 on the history of psychology, Boring's and Pillsbury's, in addition to three later histories, two by Boring (1942, 1957) and one by Roback (1952). In the subject indices of all five books, there were only 12 references to instincts (none involving James) and seven to the James-Lange theory of emotions.

TABLE 1

COMPARISON OF HISTORY OF PSYCHOLOGY TEXT

Category compared	History of psychology texts					Total
	Boring History of Experimental Psychology 1929	Pillsbury History of Psychology 1929	Boring Sensation and Perception in the History of Experimental Psychology	Roback History of American Psychology 1952	Boring History of Experimental Psychology 1957	
Subject index:						
Instincts	2	2	0	6	2	12
James-Lange	0	0	0	5	2	7
Name index:						
James	38	3 (1)	15	53	59	168 (1)
No. pages	10	9 (1)	0	17	9	45 (1)
No. sentences	200	99 (1)	0	272	180	751 (1)

Note.—Only .6% of 168 references in five history of psychology books had anything to do with instincts in James' work.

* Figures in parentheses stand for a single sentence reference to instincts.

The name indices contained 168 references to James, but only one of these had anything to do with instincts (0.6%). There were 45 pages in all five texts concerning James, with only one sentence describing instincts. This sentence reads: "The most striking of the chapters are those on habit, on the self, on emotion, on will, and on instincts, in which the long series of discussions and enumerations of instincts from Darwin down is given a systematic form [Pillsbury, 1929, p. 240]."

These data clearly show that James' 59 pages of writing on instincts had almost no effect on historians of psychology and, therefore, almost no impact on others.

What about the quality—the completeness—of James' writing on instincts? Let us take the last of the 18 instincts selected by Harlow from James' list of 25—the instinct of jealousy (Harlow, 1967). James' entire analysis of jealousy consists of a single paragraph (shown in Figure 4). It reads: "Jealousy is unquestionably instinctive." A four-word treatment!

Now, what of James the experimentalist? The direct measure of an experimenter is the amount or proportion of data he reports, the percentage of his total figures which present data, and the number of figures per page of text. Table 2 compares the percentage of figures presenting data for James' *Principles* (6%) with Ferster and Skinner's *Schedules* (99%). Number of figures per page is .06 for James and 1.2 for Ferster and Skinner.

generous for us to be sure that everywhere reserve must inspire some respect, and that persons who suffer every liberty are persons whom others disregard. Not to be like such people, then, would be one of the first resolutions suggested by social self-consciousness to a child of nature just emerging from the uretective state. And the resolution would probably acquire effective pungency for the first time when the social self-consciousness was sharpened into a real fit of shyness by some person being present whom it was important not to disgust or displease. Public opinion would of course go on to build its positive precepts upon this germ; and, through a variety of examples and experiences, the ritual of modesty would grow, until it reached the New England pitch of sensitiveness and rage, making us say stomach instead of belly, limb instead of leg, retire instead of go to bed, and forbidding us to call a female dog by name.

At bottom this amounts to the admission that, though in some shape or other a natural and inevitable feature of human life, modesty need not necessarily be an instinct in the pure and simple excito-motor sense of the term.

Love. Of all propensities, the sexual impulses bear on their face the most obvious signs of being instinctive, in the sense of blind, automatic, and untaught. The teleology they contain is often at variance with the wishes of the individuals concerned; and the actions are performed for no assignable reason but because Nature urges just that way. Here, if ever, then, we ought to find those characters of fatality, infallibility, and uniformity, which, we are told, make of actions done from instinct a class so utterly apart. But is this so? The facts are just the reverse: the sexual instinct is particularly liable to be checked and modified by slight differences in the individual stimulus, by the forward condition of the agent himself, by habits once acquired, and by the antagonism of contrary impulses operating on the mind. One of these is the ordinary shyness recently described; another is what might be called the *anti-sexual instinct*, the instinct of personal isolation, the actual repulsiveness to us of the idea of intimate contact

FIG. 4. James' complete analysis of the instinct of jealousy is a four-word sentence!

sion toward a certain class of objects was inhibited early in life by habits, formed under the influence of example; and that then a kind of sexual appetite, of which very likely most men possess the germinal possibility, developed itself in an unrestricted way. That the development of it in an abnormal way may check its development in the normal way, seems to be a well-ascertained medical fact. And that the direction of the sexual instinct towards one individual tends to inhibit its application to other individuals, is a law, upon which, though it suffers many exceptions, the whole régime of monogamy is based. These details are a little unpleasant to discuss, but they show so beautifully the correctness of the general principles in the light of which our review has been made, that it was impossible to pass them over unremarked.

Jealousy is unquestionably instinctive.

Parental Love is an instinct stronger in woman than in man, at least in the early childhood of its object. I need do little more than quote Schneider's very description of it as it exists in her:

"As soon as a wife becomes a mother her whole thought and feeling, her whole being, is altered. Until then she had only thought of her own well-being, of the satisfaction of her vanity; the whole world appeared made only for her; everything that went on about her was only noticed so far as it had personal reference to herself; she asked of every one that he should appear interested in her, pay her the requisite attention, and as far as possible fulfil her wishes. Now, however, the centre of the world is no longer herself, but her child. She does not think of her own hunger, she must first be sure that the child is fed. It is nothing to her that she herself is tired and needs rest, so long as she sees that the child's sleep is disturbed; the moment it stirs she awakes, though far stronger noises fail to arouse her now. She touched everything with gloves, allows herself to be soiled by the infant, and does not shrink from soiling its cloths with her naked hands. Now, she has the greatest patience with the ugly, piping cry-baby (*Schreihäufel*), whereas until now every discordant sound, every slightly unpleasant noise, made her nervous. Every limb of the still hideous little being appears to her beautiful, every movement fills her with delight. She has, in one word, transferred her entire egoism to the child, and lives only in it. Thus, at least, it is in all unspoiled, naturally bred

TABLE 2

COMPARISON OF EXPERIMENTAL INCLINATION OF JAMES AND FERSTER AND SKINNER BY FIGURES PER PAGE

Type figure	Principles James			Schedules Ferster and Skinner		
	No.	%	Figures per page	No.	%	Figures per page
Theoretical	86	93	.06	2	.2	.003
Apparatus	1	1	.0007	11	1	.015
Data plots	6	6	.004	908	99	1.22
Total figures	93		.06	921		1.23
Total pages	1378			734		

Note.—The percentage of figures including data and the number of figures per page reveal that James was only 1/16–1/20 as experimental as Ferster and Skinner.

Therefore, according to the quality and frequency of data presented, James was only 1/16–1/20 as experimental as Ferster and Skinner.

Now, speaking of numbers! Something much more interesting than all these drab frequency counts came up as I read through James' *Principles*. I noticed that Volume 1 (see Figure 1) ended on page 689—and that Volume 2 (see Figure 2) ended on page 689!

What in the world is this?

Since these two number 689s could hardly have occurred by chance, what possible reason could James have had for selecting them—for writing and rewriting his volumes until each ended part-way down its 689th page? What could the number 689 mean? Is there any secret meaning? Any black art? Any numerology at work?

First, the number 689 is one of the few truly devilish numbers. It is one of the 18 inverts between 1 and 1,000. Inverts are numbers that read the same from above as from below. It really does not matter which end is up, their tops or their bottoms. So this is 689—turn it upside down and it is still 689. The other 17 inverts are: 1, 8, 11, 69, 88, 96, 101, 111, 181, 609, 619, 808, 818, 888, 906, 916, and 986.

The probability of hitting one of these by chance alone is 18 out of 1,000 times. The probability of hitting two in a row by chance alone is 18 out of 1,000 × 18 out of 1,000, or three out of 10,000 times. This leads us to conclude that James carefully selected this rare numerical invert.

Furthermore, the probability of hitting exactly the same one of the 18 inverts twice in a row by chance alone is one in 1,000 × one in 1,000, or one out of a million times. This leads us to be almost sure that James used some

sort of selection criterion. Finally, a slightly different approach to our statistical-historical analysis suggests that if the two volumes were to be about equal in length—say between 600 and 700 pages each—then the probability of getting an equal number of pages in each would be one in $100 \times$ one in 100, or one in 10,000 times by chance alone. Again, an extremely rare occurrence—and more coals on the fire, whose smoke tells us James was a crafty old invert selector.

What possible selection criteria could he have used? What of the numerology? Could James have been in secret—a numerologist?—a practitioner of the black arts?—a cabalistic scientist?

Let us search for the telltale hidden signature—the sure sign of a numerologist at work. Let us start with the number that first caught our attention: 689. Added together, the digits 6, 8, and 9 yield a total of 23. The twenty-third letter of the alphabet is W—for WILLIAM?

Now what else can we discover about the number 23? Its first digit, 2, is the first female or even number. Its other digit, 3, is the first male or odd number. Added together, they yield 5—the symbol for marriage and completeness. And there are five—count them—five letters in JAMES!

William James. Our complete signature! James, our numerologist, happily at work; safe in the knowledge that his secret skill and power will be known only to friends—to others of his kind—to other numerologists.

But come! Let us delve even further. We must have proof before we conclude! Let us look for the hidden address—the geographic key—or the *locature*, as it is called in numerological science (Carberry, 1689). Let us assume that James' locature code was $N-1$. Then, for the locature of his manuscript, we have H-A-R-V-A-R-D—seven letters. $N-1 = 7-1 = 6!$ U-N-I-V-E-R-S-I-T-Y—10 letters. $N-1 = 9!$ And, finally, C-A-M-B-R-I-D-G-E—composed of nine letters. In like manner, $N-1 = 9-1 = 8!$ Now, everyone knows that Cambridge always comes between Harvard and its University. So placing the 8 between the derived 6 and 9 yields 689! Therefore, the cabalistic number 689 is not only our signature but doubly proven by yielding our locature as well! I am almost breathless with numerological discovery as I write this!

The function of the 18 magic or invertible numbers is to call upon the devil's power to provide the supplicant with an extra advantage here on earth. These numbers, reading the same from below as above, provide 18 natural and unguarded bridges for sulphuric power to rise from the depths and engage in earthly action.

The immediate and marked success of these two cabalized volumes of James' clearly suggests unnatural skill and power were at work. The numerological double proof (both signature and locature—a rare find in numerological science!) of the actual power route through the invert number 689 into the vulnerable last page of each volume conclusively proves our case!

Using simple frequency counts and a functional analysis, we have shown nothing—merely that James was not an instinct theorist because he had no effect as such.

Using James' own method, the *critique philosophique*, we have made two important historical discoveries: first, that James was in secret a numerologist (this we doubly proved!); and second, that he was the discoverer and initial user of the statistical formula, $N - 1!$

Thank you for letting me share these discoveries with you. By the way, this is a transcript of the sixty-ninth lecture I have presented this year!

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