

A STUDY IN THE DYNAMICS OF PERSONAL RELIGION.

BY PROFESSOR GEORGE ALBERT COE.

Northwestern University.

Up to 1891 the history of psychology contained no example of the systematic application of empirical methods of research to the religious phenomena in the midst of which we are living. Since that time, however, President Hall and several of his pupils, notably Professor Starbuck, have published significant contributions upon certain branches of this subject.¹ The chief result is the establishment of definite correlations between religious experience and adolescence. The conclusion most thoroughly worked out is that the period of greatest religious transformation for both males and females is, in general, the period of physical transformation from childhood to adult life. Another important generalization is that what is called conversion is only one of many forms in which a normal adolescent religious change clothes itself. From the case in which childhood religion grows mature without special agitation, to the cases in which conversion takes place amid volcanic outbursts of emotion, there is every grade and variety of disturbance, though with the same general outcome when adolescence is over.

These differences have never been satisfactorily accounted for, and indeed the question has hardly been raised except for the sake of hazarding a guess. "The explanation of sudden conversions," says Bain, "is no doubt to be sought in some overpowering impression upon the mind that supplies a new and energetic motive to the will, thereby initiating a new line of

¹G. Stanley Hall: *The Moral and Religious Training of Children*, *Ped. Sem.*, I., 196ff.; E. D. Starbuck: *A Study of Conversion*, *Am. J. Psy.*, VIII., 268ff., and *Some Aspects of Religious Growth*, *Am. J. Psy.*, IX., 70ff.; A. H. Daniels: *The New Life*, *Am. J. Psy.*, VI., 61ff.; J. H. Leuba: *A Study in the Psychology of Religious Phenomena*, *Am. J. Psy.*, VII., 309ff. See also Luther Gulick: *Age, Sex and Conversion*, *Association Outlook*, Dec., 1897.

conduct. * * * Such changes occasionally happen, but not without terrific struggles, which prove how hard it is to set up the volition of a day against the bent of years."¹ Here all sudden conversions are lumped together as though they were all of one type; all are declared to be accompanied by terrific struggles, and all are explained by a single circumstance.

Equally incomplete is the explanation of Nietzsche when he snarls at Christianity because, as he thinks, it is not in contact with reality. He declares that Christianity cultivates "an imaginary psychology (nothing but self-misunderstandings, interpretations of pleasant or unpleasant general feelings,—for example, the conditions of the *nervus sympathicus*,—with the help of the sign-language of religio-moral idiosyncrasy,—repentance, remorse of conscience, temptations by the devil, presence of God").² Doubtless this statement contains some truth; yet it is as inadequate to explain the broad variety of experiences occurring under Christian influences as it is to explain the whole sphere of perception, normal and abnormal together.

Here and there a more probable hint has appeared. Thus, Havelock Ellis makes the remark that a sudden explosion of suppressed hypnotic centers is 'the most important key to the psychology of conversion.'³ Leuba, speaking of the conversion of John Wesley, throws out this hint: "An interesting remark can be made here concerning the influence of suggestion: it is as the change that God works in the heart is being described that the very same transformation takes place in Wesley."⁴ The same writer also remarks that "the particular forms in which affective states dress themselves are functions of the intellectual atmosphere of the time."⁵ This is undoubtedly a hopeful clue; but when the same writer goes on to affirm that joy "is never altogether wanting, and is always violent during the first hours or days that follow,"⁶ he misses an essential fact. Starbuck was, I believe, the first writer to give adequate recognition, with

¹ *Emotions and Will*, 3d ed., N. Y., 1876, 453f.

² *Antichrist*, Works, N. Y., 1896, XI., 253.

³ *Man and Woman*, 2d. ed., Lond., 1898, 292.

⁴ *Psy. of Relig. Phenomena*, *Am. J. Psy.*, VII., 340

⁵ *Id.*, 357.

⁶ *Id.*, 351.

empirical data, to the marvellous varieties that cluster about such terms as conversion. He advanced a step toward their explanation, also, when he showed that something more than a conscious exercise of either intellect or will was central in adolescent conversions.¹ He came still closer to the problem when he found imitation, example, etc., present as motives in 15 per cent. of his cases.² Nevertheless, a moment's reflection upon the capacity of the average person to tell the truth regarding his own motives will reveal some insecurity in these results and bring up the whole question of the best method of getting at the facts. Another clue emerged in Starbuck's admission that 'much depends upon temperament.'³ Yet this clue has never been followed up. In fact, this same writer, commenting on some of his cases, confesses that some religious experiences 'seem to come in the most unaccountable ways.'⁴ Now, I venture to believe that, if we could secure sufficiently full information as to the conditions, every one of these cases could be accounted for.

The present study, accordingly, is an attempt at a more complete analysis of individual cases than has heretofore been attempted. If we can lay bare the factors in a few cases that are fully accessible, the information thus acquired may afterward be of service in interpreting the broader differences of sects and religions. To forestall misunderstandings, it may be well to state at this point that the phrase 'the dynamics of personal religion' is not intended to convey, and cannot properly convey, any metaphysical meaning. The problem concerns the concomitance of certain groups of phenomena and nothing more. The question of divine influences in the mind of man and in history must stand in exactly the same position at the end of such a study as it does at the outset. Any one who prefers to do so is at liberty to interpret every result as a description of the mode of God's working in the world. Nothing in the study itself has any logical tendency to undermine this belief.

Our task consists in looking for coördinations between specific inner states and tendencies and specific external circum-

¹ *Am. J. Psy.*, VIII., 292.

² *Id.*, 281.

³ *Am. J. Psy.*, IX., 110.

⁴ *Id.*, 81.

stances. We are confronted at the outset with the problem of how to secure adequate data. In previous studies in the psychology of religion reliance has been placed upon the *questionnaire* method, which consists in securing from many persons written answers to printed questions regarding their experiences. This is doubtless a satisfactory method of securing certain facts; but our inquiry calls also for information which the writers of such papers ordinarily do not and cannot possess. Accordingly, my question list was so constructed and the answers so used as to make the latter not merely a record of certain facts, but also a reflection of the personality of the writer. These answers were also supplemented in various ways: First, personal interviews were had with a large proportion of the persons examined. The cross-questioning which these interviews made possible not only cleared up doubtful points in the papers, but also elicited many new and important facts. Second, a large proportion of the subjects were placed under careful scrutiny by myself and others, with a view to securing objective evidence as to temperament. These observations were guided by a carefully prepared scheme of temperamental manifestations. Third, interviews, based upon the same scheme, were had with friends and acquaintances of certain of the persons under examination. Finally, in order to get at the facts of suggestibility, hypnotic experiments were made upon all the important cases that were accessible. Fuller description of some of these methods of gathering data will appear later.

The number of persons examined was 74. Of these, 50 were males, and 24 females. Nearly all are college students who are healthy in both mind and body and have had the advantage of positive moral and religious training. Nearly all are just past, or are just passing out of, the adolescent period. The average age of the men was 24.7, and of the women (one case, 65 years of age being excluded), 22. Though this narrows the range of observation of temperament chiefly to the formative years, it brings these compensating advantages: the nearness of the chief religious experiences, the habit of introspective analysis specially characteristic of adolescence, and the naïve and spontaneous expression of personal facts. Again, a

large majority of the subjects were brought up under the influence of the Methodist Church, which lays great stress upon personal religious experiences. The opportunity to study the effects of suggestion was therefore excellent. In general, in spite of some limitations of the field of observation, the differences in both type of religious experience and type of mental organization were many and great. The accessibility of the material, moreover, and the opportunity to observe, ask questions and experiment repeatedly—these easily outweigh all the limitations. It is, indeed, not easy to see how a more satisfactory set of cases could be secured.

Let us now turn to the variations in religious experience from individual to individual. The chief one, and the one with which this study is occupied, is in the degree of abruptness of religious changes. One person reaches a higher plane of the religious life by a process of development scarcely ruffled by excitement; another attains the same state by passing through a mental cataclysm. Some elements of the explanation lie on the surface. For instance, the striking changes occur chiefly among denominations that definitely aim to secure them. Furthermore, these denominations have discovered many of the conditions favorable for producing such changes, such as a particular type or particular types of preaching and appeal; the use of music, particularly of certain kinds; intense social feeling fostered by meetings; the provision of external acts, signs or instruments—such as rising for prayers or to indicate decision, going forward, the altar, the mourners' bench—all of which evoke expression of the inner state and thereby intensify it; and, finally, the fitting of all the conditions together so as to produce a climax or a series of climaxes. What we need to determine next is the mental mechanism to which all this appeals, and also the reason why it fails of its result in many cases in which the conditions give hope of success. For it is a matter of everyday knowledge in revival churches that of two persons brought up in the same manner, and apparently meeting the same conditions, one may experience a brilliant conversion, while the other may experience no such states at all.

In order to secure definite ground for an hypothesis on this

point, the persons under examination were divided into two groups: those who had experienced a marked transformation, and those who had not. The fact that religious changes show all degrees of rapidity and of emotional intensity made it necessary to draw this line with great care. In every case, therefore, which the papers left in doubt, a personal interview was had. Striking transformation was defined to the subject as a profound change, which, though not necessarily instantaneous, seems to the subject of it to be distinctly different from a process of growth, however rapid. As soon as the subject grasped this definition, he was requested to classify himself, and his decision was accepted as final.

In the second place, a cross division was made on the basis of predisposition of the mind toward such experiences. Let us call this basis 'expectation of transformation.' A careful study was made of the home influences, the general church environment and the specific circumstances surrounding the religious awakening. Here, again, much had to be drawn out by personal interviews. A considerable number of the subjects had been taught that one who has been religious from childhood does not need a marked conversion. Others indicated that their thoughts were never turned strongly in the direction of conversion. All such were classed as not expecting a transformation.

Combining these two modes of division we secure two positive classes for minute study—those who expected a transformation and experienced one, and those who expected, but failed to experience. In the working out of this scheme a third division was found necessary in order to tabulate cases in which these two classes overlap; for a number of persons who experienced a marked transformation were unsatisfied and sought for something more without securing it, while others were satisfied, but sought for a still higher experience in vain.

To do justice to the case, it is necessary to note the caution that was exercised in making the classes. For example, in the class of those who expected but failed to experience there are included none who did not distinctly declare that they sought an experience without finding. Most, if not all, of them had subsequently learned how to be religious in spite of this disap-

pointment, yet the struggle in a large proportion of the cases had been acute.

From theology the suggestion may come that possibly these persons did not really surrender themselves to God. But an *a priori* assertion, or rather guess, like this ought to have little weight as against the following: All the evidence of the facts goes to show that those who were disappointed had put themselves in the same attitude of will as the others: furthermore, a large majority of the disappointed ones are now living positively religious lives in the evangelical sense of religious.

These two classes were next examined with respect to temperament. This was a laborious and perplexing undertaking, both on account of the unsatisfactory treatment of temperament by writers on psychology, and because of the complexity of the facts to be observed. It is easy for any psychologist to give a classification of temperaments that can be brilliantly illustrated from history, but it is quite another thing to devise a method for grouping the persons one comes in contact with. At the present day two classifications are employed. The first, represented by Wundt¹ and many followers, is based upon the fact that one's mental processes may vary in both rapidity and strength. This basis yields four temperaments which correspond fairly well with the traditional fourfold division. The rapid-strong temperament corresponds to the choleric, the rapid-weak to the sanguine, the slow-strong to the melancholic, and the slow-weak to the phlegmatic. On the other hand, French writers for the most part adopt a qualitative basis—that is, classify according to the faculty or function that predominates. This is true of Ribot,² Queyrat,³ Levy⁴ and Fouillée.⁵ Perez, however, retains liveliness and intensity as the basis.⁶ This is not the place to discuss the general topic of temperament, nor to go into the merits and defects of these two plans of classifica-

¹ *Grundzüge der Phys. Psy.*, Leipzig, 1893, II., 519ff. See also Lotze: *Microcosmus*, Vol. II., Bk VI., Ch. II.; and Ladd: *Els. Phys. Psy.*, N. Y., 1897, 572ff.

² *Psy. of the Emotions*, London, 1897, 388ff.

³ *Les Caractères*, Paris, 1896, 36ff.

⁴ *Psy. du Caractère*, Paris, 1896, 182ff.

⁵ *Tempérament et Caractère*, Paris, 1895, 20ff.

⁶ *Le Caractère*, Paris, 1892.

tion. It is sufficient to remark that a practical scheme must provide at least a fairly definite mode of describing any and every person whose individuality is sufficiently marked to be noticeable at all.

Wundt's scheme was first employed, but it quickly proved itself inadequate to give a genuine characterization of many distinctly marked individualities. This was especially true when Wundt's classes were interpreted as if they were identical with the traditional four temperaments. The qualitative plan was next tried; but, while it supplemented the other, it proved inadequate taken by itself. In the interest of a workable scheme, therefore, it was found necessary to combine the two modes of division. The result was not a new classification of temperaments, but what we may call a scheme of the constituents of temperament. The mode of procedure now consisted, first, of judging whether sensibility, intellect or will was the most prominent faculty; next, of finding the second in prominence; then of estimating the place of each of the three faculties in respect to promptness and intensity. For each subject, in the end, there were three descriptive designations, as, for example, prompt-intense intellect, prompt-weak sensibility, prompt-weak will; and these three were arranged in the order of prominence.

The sources of evidence for temperament were the same as those employed by the writers just named, namely, permanent modes of action, of speech and of point of view; permanent interests; likes and dislikes; habitual social interactions, etc., whether observed and recorded by the subject himself or by other persons. The data were secured by the following methods: First, by inserting in the question list a number of questions concerning likes and dislikes, laughter and weeping, anger and its effects, habits of introspection, moods, promptness or its opposite in decisions, ideals, the effects of excitement, habits with respect to physical activity, etc. A particularly fruitful interrogation was the following: "If you were obliged to spend a whole day alone, felt at perfect liberty to follow your inclinations and had the means to do so, what would you do?" At no point in the questions was temperament or disposition mentioned.

The second method was by observation of the general tone of the papers. The question list, it may be remarked, was very lengthy. It included approximately 200 specifications, all planned with reference to the evoking of memories rather than the securing of categorical replies. Its length precludes its presentation here. The responses were correspondingly extended, and not the least remarkable thing about them was the amount of information they imparted between the lines. It was obvious that they were not merely a record of phenomena, but also a body of original phenomena. Sometimes what they purported to be as a record had to be offset by what they were as new facts. Thus, in response to the question, 'Do your friendships last?' nearly every writer gave an affirmative answer. Here it is probable that the ideal of the writers rather than their actual experience comes to expression. These answers have value, therefore, as evidence of the nature of the social instinct, but hardly as evidence of actually existing social relations. Occasionally the manner of responding to a question revealed more than did the content of the response. Intellectual interest stood out in one, strenuous seriousness or passionate earnestness in another, while the chattiness of a third revealed a type of impressionability strongly contrasted with both.

A third method was by objective observation and interviews, as already described. The scheme of questions underlying this part of the investigation was also extended. It included, among other topics, the following: The habitual state of the muscles, particularly the face, whether tense or relaxed; one's carriage and motions, whether quick, jerky, irregular, or more slow, free and pendulum-like; one's mode of speech and the quality of the voice; the expression of the eyes, and any other signs that show whether the subject is wide-awake to his surroundings; whether one is more given to the reception of impressions or to active effort to control surroundings; readiness to laugh and cry; specific manifestations of anger; characteristic moods; persistency; social self-assertiveness of various types; intellectual habits; religious habits.

The data obtained by all these methods were compared, and

thus the final judgment was based upon a really wide range of facts. Furthermore, in most cases, independent judgments were formed by different observers, and these judgments were finally checked off against one another. As soon as a definite and comprehensive mode of procedure was discovered, the facts began to fall into place with the sort of inevitableness that inspires confidence in one's method. The amount of agreement reached by observers independently of one another was another evidence of the trustworthiness of the method. If the lack of precision and of quantitative determinations should seem to impair the value of the results, two considerations might be offered in defence. The first, is that all the knowledge of temperament possessed by biographers and historians and by literary workers, and nearly all that possessed by psychologists themselves, has been gathered by methods analogous to this, though rarely, if ever, by methods so systematic and comprehensive. The other consideration is that this manner of learning men is one of the bases of the world's successful business. Indeed, a large part of the practical interests of life hang upon our ability so to observe temperamental manifestations as to be able to predict the general quality of one's reactions in different sets of circumstances. Of course, this is not a sphere in which claims to scientific infallibility become even plausible; nevertheless, the thorough and systematic analysis employed may fairly entitle the results to some degree of confidence.

The temperamental classification of the members of the three groups concerning whom adequate information was obtainable yields the results shown in the table on the next page.

The most marked contrast in this table concerns the relation of the two main groups to intellect and sensibility. Where expectation is satisfied, there sensibility is distinctly predominant; but where expectation is disappointed, there intellect is just as distinctly predominant. To appreciate the strength of this conclusion, it will be well to remind ourselves once more of the range of facts upon which it is based. In only three cases in Group I. and one case in Group II. was it necessary to rely solely upon the subject's paper. A second interesting result is that those whose expectation is satisfied belong almost exclusively

to the slow-intense and prompt-weak varieties, the temperaments approaching most nearly those traditionally known as the melancholic and the sanguine. On the other hand, those whose expectation is disappointed belong more largely to the prompt-intense variety, or the choleric temperament; though the distribution between the choleric, melancholic and sanguine is not

RELATION OF STRIKING TRANSFORMATION TO TEMPERAMENT.

	Sensibility Predom- inant.	Intellect Predom- inant.	Will Predom- inant.	Prompt- Intense.	Slow- Intense.	Prompt- Weak.	Slow- Weak.
GROUP I.—17 persons who expected a transformation and experienced it...	12	2	3	1	6	8	2
GROUP II.—12 who expected but did not experience...	2	9	1	7	3	2	
GROUP III.—5 others who belong to both the above classes.....	2	2	1				

markedly uneven. Again, comparing the two main groups with respect to promptness and intensity, each by itself, we find that, on the whole, Group II. exceeds Group I. in both promptness and intensity. Finally, some slight confirmation of the representative character of these results is found in the heterogeneity of the cases in Group III. The full significance of these results concerning temperament, however, will not appear until we have examined the same subjects with respect to automatisms and suggestibility.

Careful inquiry was made, both in the question list and by personal cross-questioning, for evidence of mental and motor automatisms. The inquiry divided itself into these heads: striking dreams in connection with religious awakenings; hallucinations in connection with religious transformations; hallucinations occurring at other times; motor automatisms occurring at the time of religious transformation, and similar automatisms occurring at other times. The purpose of the inquiry did not make it necessary to render these various classes

rigorously precise. Accordingly, when it was difficult to decide whether a given phenomenon was to be classed as a dream or as a hallucination, I followed the impression of the subject. If he insisted that he was awake at the time, the experience was classed as a hallucination. Similarly, the group of motor automatisms contains some cases that fall near the boundary line. But, in general, it is believed that the list which follows is a full and substantially accurate census. It contains all the facts of these classes discovered in the entire investigation.

Striking dreams in connection with religious awakening:

Dreamed of being cast into hell. Suffered all the torments of the damned that he had ever heard about.

Dreamed of being cast out of heaven.

Dreamed of a heavenly procession which he could not join.

Dreamed of taking an examination of fitness to go to heaven.

Hallucinations in connection with religious transformation:

Streaks of light shone down.

A somewhat bright, diffused light just above the eyes; occurred twice.

Seemed to observe the joy in heaven.

Saw a vision of the broad way and of the narrow way, with many persons in the former and few in the latter.

Motor automatisms at time of religious transformation:

Uncontrollable laughter for fully five minutes.

A powerful thrill through the whole body.

Sudden clapping of hands before any change of feeling came.

Tobacco habit broken without effort or even seeking.

Other hallucinations:

Saw a light spring up from a tomb in a cemetery.

Used to hear his name spoken when he was about to commit some sin.

Had just retired after private devotion. Saw a dim, diffused light above the eyes.

Was touched by an absent friend.

Saw a dog that was not there.

Heard deceased grandfather's voice.

Heard mother's voice when she was far away.

Heard the voice of a friend.

Felt the presence of an absent friend. It seemed to be an objective fact and not a mere impression.

Heard music different from any he had ever listened to.

Heard angels sing.

In the midst of a public speech twice saw a scene he was describing.

Childhood fear of the dark has persisted. The feeling that a fiend is just behind and ready to spring upon him sometimes becomes so intense that self-control becomes impossible.

An inner voice which expresses approval at times of perplexity by saying, "Fear not, I am with you."

God tells her where things are that she is looking for. Also tells her things before they come to pass.

Voices and visions just before sleeping at night. Has often gone to the window or out of doors to see where the music came from.

Up to age of thirteen used every night to see figures in the room.

When praying had a vision of an absent friend who gave just the information that was desired.

Waked one night and saw a great luminous eye in the ceiling : thought it was God's eye.

Other motor automatisms :

Automatic laughter.

At times something very holy seems to be dictating his thoughts.

Has always felt himself under two influences : one good and one bad, and neither of them any part of himself.

Surprising and incomprehensible outburst of defiance to God at age of about ten or twelve years ; shook fist at the sky and told God he hated him.

"The Holy Spirit often fills me so that I feel light, and it's no trouble to walk and not feel tired." (A lady well advanced in years.)

Talking, singing, whistling to one's self. This seems, at times, to become an automatic, sub-conscious performance. A parent affected in the same way sometimes lets out secrets by this means.

Let us now ask how these phenomena, exclusive of the dreams, are distributed among the different sets of cases. Of eighteen persons in Group I., eight have had either hallucinations or motor automatisms; of the five persons in Group III., four have had similar experiences. Hence of twenty-three persons who have had a striking religious transformation, twelve have also exhibited these automatic phenomena. But of the twelve persons in Group II., who sought a striking religious transformation in vain, only one has had either a hallucination or a motor automatism.

The total number of persons examined with respect to automatisms was seventy-four. Of these, nineteen had exhibited such phenomena; but twelve of these nineteen persons are found in Groups I. and III.—that is, one-sixth of the entire number of persons examined embrace two-thirds of the cases of automatisms. Putting these results in the form of percentages, we get the following :

General average of automatisms for 74 persons, $25\frac{2}{3}$ per cent.

Average for those who have experienced a striking religious transformation, . . . 52 “

Average for those who sought such a transformation in vain, . . . $8\frac{1}{3}$ “

In other words, the average for those who had a striking religious transformation is twice as high as the general average, and six times as high as the average for those who sought such a transformation in vain.

If the general average of automatisms seems rather excessive, the following explanatory circumstances should be borne in mind: First, motor automatisms are included along with hallucinations. Secondly, nearly all the persons examined were too young to have forgotten such experiences. Thirdly, the cross-questioning already described brought out a number of facts not elicited by the *questionnaire*, and not likely to be elicited by a census of hallucinations conducted by correspondence alone. Finally, it now becomes obvious that the high general average depends upon the *presence* of a relatively large number of persons who have experienced striking religious transformations.

The results are so unequivocal that interpretation is unnec-

essary. It may be worth while to add, however, that in two cases of motor automatism occurring at the time of religious transformation there was clear evidence of a congenital tendency to such performances. In both cases a parent had exhibited a similar automatism under similar religious conditions. In a third case it was possible to identify a phenomenon as probably automatic through a similar but more pronounced phenomenon in a parent. One case of hallucination was likewise clearly referable to congenital tendencies. Three of these four cases of congenital proclivity belong in Group I. Furthermore, to Groups I. and III. belong nearly, if not quite, all the persons who have experienced the healing of disease by faith, those who have received remarkable assurance of answered prayer in advance of the event, and those who reported other veridical premonitions. The conclusion is that the mechanism of striking religious transformations is the same as the mechanism of our automatic mental processes.

There remains for study the relative suggestibility of the three groups. At first thought, this seems to be a simple problem of more and less. But it is neither simple nor merely quantitative. Indeed, the qualitative varieties of suggestibility are quite as marked and quite as important as the 'suggestibility and non-suggestibility' which chiefly figure in the literature of suggestion. It must have struck many experimenters as a strange incident that, whereas persons of sound body and trained mind make excellent subjects, most of the literature represents suggestibility as identical with relative prominence of the lower centers. The fact seems to be that some persons are easily hypnotized, not because the higher rational centers are undeveloped, but precisely because the high development of these centers,—the habit of prompt concentration of voluntary attention,—makes it possible to follow the suggestions of the operator with precision. Moll remarks that the ability to direct one's thoughts in any particular direction is favorable to hypnosis, but that this ability is usually considered to be a sign of strength of will.¹ As the persons under examination in the present part of our study are, perhaps without exception, healthy, and as all have had con-

¹ Hypnotism, London, 1895, 40.

siderable mental training, it will be seen that ready response to suggestion cannot be regarded as an unambiguous sign. The experimentation was begun under the tentative hypothesis that auto-suggestion might possibly account in part for the failure of persons in Group II. to secure the desired experiences. The problem then became whether external suggestion was more prominent in Group I. and auto-suggestion in Group II.

The problem may be more precisely put by distinguishing between passive suggestibility and spontaneous auto-suggestion. The necessity of thus stating the distinction grows out of the ease of misunderstanding certain phenomena, particularly those commonly described as 'resisting the operator's suggestion.' Thus, if a subject struggles to open his eyes when I tell him that he cannot do so, this is no evidence of spontaneity. For the very assertion, in the early stages of hypnosis, that the eyes cannot open is a challenge to try; it is a double suggestion. This was exquisitely demonstrated upon one of my subjects. For some time I had tried in vain to close the eyes by making the usual passes and giving the usual suggestions of drowsiness, etc. At last the subject, who was apparently wide awake, declared that she could not close them and keep them closed. Catching at this hint, I suddenly remarked, "You cannot close them!" They immediately clapped shut with every appearance of doing it automatically. In another case in which the usual suggestions seemed to have little or no effect, the subject was instructed to keep his eyes closed voluntarily for a while; but his eyes opened very soon, and did so repeatedly. He finally declared that it seemed as if he *could not* keep them closed. In two other cases it was found that a previously formed conviction on the part of the subjects that they were suggestible had tended to make them appear more passive than they really were.

What was looked for, then, was evidence of spontaneity or originality, rather than mere readiness of response or its opposite. An illustration or two will make this clear. To one subject I declared that his outstretched arm was rigid and could not move. The arm immediately stiffened out, but began a series of incipient up-and-down motions. This was clearly a product of my own suggestion, as were also, perhaps, the sympathetic writh-

ings of the body and contortions of the face. The cataleptic arm was the right one. Presently the left arm was raised and began to push down on the right one, evidently in an effort to lower it. Failing in the effort, the left arm itself now became cataleptic, and could not lower itself. Here the evidence of spontaneous auto-suggestion is unmistakable. Contrast this, now, with another case in which a suggestion was given that an arm was cataleptic. Certain incipient responses to the challenge were made as before; but they ceased in a few seconds, while the face and the rest of the body expressed little or no interest in what was going on.

Let us compare two other cases that are less striking, and yet unambiguous. In both, passes in front of the eyes and suggestions of heavy eyelids, etc., meet with very slow response, so slow that I finally close the lids with my fingers. If, now, I say "Your eyes are closed tight; you cannot open them," both subjects open their eyes. Similarly, they can unclasp their hands, and the like, whenever they are challenged to try. Thus far the two cases correspond point for point. But if, after closing the eyes, I leave the subjects alone, avoiding, as far as possible, the giving of further suggestions, a decided difference presently appears. One of the subjects sits with closed eyes for an indefinite length of time—that is, shows no initiative; but the other, as often as the experiment is repeated, spontaneously opens his eyes after a short interval.

Such experimentation resulted in separating the cases according to two fairly well-marked types. In respect to readiness of response to hypnotic suggestion the two types do not seriously differ. Under both types fall cases in which the response was almost immediate, and also cases in which it was very slow. But the behavior under suggestion was decidedly different. Let us call the two types the passive and the spontaneous. Under the former belong those who take no decided or original part in the experiment. Their response to external suggestion may not be very pronounced, but they initiate nothing after once they have begun to yield. Under the spontaneous type belong, on the other hand, the few who appear to be non-suggestible and those who, while responding to suggestion,

take a more or less original part by adding to the experiment or by waking themselves up.

Comparing Groups I., II. and III. with respect to this point, we find certain plain differentiations. To begin with, as might be expected, nearly all the persons who have experienced any of the mental or motor automatisms already described are 'passives.' Thirteen such persons were experimented upon, and, of these, ten clearly belonged to the passive type. This fact makes it appear that the two types here described are substantially parallel with those sifted out by certain experiments at Harvard University.¹

A few cases were not accessible for purposes of experiment. The numbers experimented upon in the two groups were respectively 14 and 12. All the persons in Group III. were experimented upon. The results are as follows: In general, the line between Groups I. and II. coincides with that between the passive and the spontaneous types, though apparent exceptions exist, and though the interpretation of the facts is not equally clear in all cases. Of the 14 cases in Group I. (persons who expected a striking transformation and experienced it), 13 are of the passive type. Of the 12 persons in Group II. (expectation disappointed) 9 clearly belong to the spontaneous type, 1 is entirely passive and 2 are open to some doubt. Of the 5 persons in Group III. (striking experience, yet disappointed), 2 are passive and 3 spontaneous.

The nature of the evidence may be further illustrated and the conclusion still further strengthened by reference to the negative and doubtful cases. The one case in Group I. that is not clearly passive is the one first mentioned on a preceding page in illustration of the double character of many verbal suggestions. This case is probably a passive one, therefore; though not so counted in the above figures. Another member of this group seemed for some time to be an exception to the general rule. She had had three striking experiences, and yet was apparently not suggestible. One day, however, mention having been made in the class in psychology of pain induced in a tooth by imagining a dental operation, she soon felt a tooth-

¹ Cultivated Motor Automatism, by Gertrude Stein, *PSY. REV.*, V., 295ff.

ache. It became intense and lasted for three or four hours, the face meantime becoming sore and apparently swollen. This settled the question of passive suggestibility. Turning, now, to the negative and doubtful cases in Group II., we find that the one clearly negative case is one that stands on the border between Groups I. and II. This subject had more difficulty in classifying himself than any other one in either group. Again, of the two cases scheduled as doubtful, one is the only case in this entire group in which any form of mental or motor automatism was discovered. Nevertheless, the case remains ambiguous; for, though external suggestions are accepted with every sign of passivity, the subject has heretofore practised auto-suggestion, even to the extent of curing toothache and other minor pains thereby. His present passivity, therefore, may be partly or wholly due to training. By way of parenthesis it may be remarked that each subject was questioned as to whether he had ever been hypnotized or had ever witnessed hypnotic experiments, and his reactions were judged according to his replies.

The correlation between one's religious experience and one's type of suggestibility was sometimes found to be curiously complete. Here, for example, is a subject whose response to passes and suggestions of drowsiness is not prompt; yet when the response comes it simply plumps itself. The subject is now very passive. In response to a suggestion, an arm quickly becomes cataleptic; but, in the midst of the experiment, something having incidentally appealed to the subject's interest, he spontaneously opens his eyes and appears to be completely out of the hypnosis. This man was converted at the age of sixteen, with marked manifestations. His whole being was thrilled with joy, and he had what he regarded as the witness of the Spirit. But from seventeen to nineteen he endured terrible storm and stress, in which he sought in vain to recover his original status. He finally settled down to the conviction that we are children of God in our deeds and thoughts rather than in our particular moods and feelings.

A still more remarkable parallel is as follows: Response very prompt; lids clapped shut and trembled. At the suggestion that they could not open, they quickly opened. The re-

mark was then made that perhaps the lids would not close so promptly next time. The suggestion worked, for now it required many passes to shut the eyes. The arm refused to become cataleptic; but when I began to breathe deeply and slowly, as if asleep, the subject's head promptly began to fall forward; and it continued downward until it rested on the breast. The subject was now apparently in a deep sleep; but after awhile a spontaneous awakening occurred. He was re-hypnotized and told that he could not pronounce his name; a gentle struggle ensued and lasted for a considerable time, but the effort was not given up until the name was successfully pronounced. The characteristics here are initial passivity followed after a while by decided spontaneity. This exactly describes the subject's religious experiences also. On two different occasions, after earnestly seeking for a marked experience, he happened to notice some incidental thing in his environment that he took to be a divine token. Immediately he experienced great exaltation; his heart's desire seemed to be realized; but after a few days the emotion waned, and reaction setting in pronounced a severe verdict upon the whole performance.

In order to appreciate the weight of these results concerning the relation of suggestibility to religious transformations, it will be necessary to notice once more the principle upon which cases were classed in Group II. This group contains no case in which there was not a distinct effort to obtain an experience that never came. Now, of the 74 persons examined, there are many whose training and environment were equally adapted to induce expectation and seeking, but did not do so. It is therefore probable that spontaneous auto-suggestion prevented expectation in some as it prevented the fulfillment of expectation in others. Hence, the sphere in which it plays a decisive rôle is undoubtedly much larger than the numerical proportions seem to indicate.

Moreover, no statistical display can do justice to facts of this sort. For not only must the numbers express in some degree one's interpretation of facts, and not merely the bare facts themselves, but the qualities with which we are dealing are too profound and pervasive to be expressed in any simple formula.

The whole style of one's mental organization is involved. It is safe to say that any observer of human nature would perceive the propriety of setting off Groups I. and II. from each other. The personalities in each group taken by itself are relatively alike, while the two groups are clearly different from each other. Psychology merely renders this obvious difference more precise by saying that the difference is one of temperament and of a more or less spontaneous attitude toward environment.

It has been shown that three sets of factors favor the attainment of a striking religious transformation—the temperament factor, the factor of expectation, and the tendency to automatisms and passive suggestibility. Let us, in conclusion, note the effect of combining these three factors. Of 10 cases in which there is expectation of a marked transformation, together with predominance of sensibility and passive suggestibility, the number whose expectation was satisfied was 9; but of 11 cases of such expectation, together with predominance of intellect or of will, and with spontaneous auto-suggestion, not one was satisfied. These numbers include cases from Group III. as well as from Groups I. and II.

If our groups seem to contain rather few cases, it should be remembered that a problem of this kind requires relatively complete knowledge of a few cases rather than an item or two of knowledge regarding many cases. Our procedure must necessarily consist in a gradual narrowing down of the range of cases, together with increasing minuteness of scrutiny in each case. As a matter of fact, we have approached about as closely to the strict method of experiment as the subject permits. The factors are so definitely identified that prediction becomes safe wherever either of the two combinations just mentioned is found present. Given three factors, the fourth—the general character of one's religious experiences—can be predicted with a high degree of probability.

It is supposed by many that striking transformations in the affective life are reserved for those who have been great sinners. The idea seems to be that an abrupt transition from moral badness to moral goodness naturally carries great emotional disturbances with it. And doubtless such circumstances do tend

to intensify whatever happens. But it does not at all appear that these circumstances are the chief factors that determine the degree of affective transformation at conversion; for among the cases belonging to Groups I. and III. there is only a meagre sprinkling of persons who had ever been bad in any very positive sense. In fact, of the entire 23 persons, only 5¹/₂ report having experienced any sorrow for specific sins, and even then the sin repented of was generally a bad temper or some similar infirmity. On the other hand, of 13 persons in Group II., all of whom sought a striking transformation in vain, 3 also report sorrow for specific sins.

In short, everything goes to show that the chief circumstances favorable to these striking experiences are expectation, abundance of feeling and passive suggestibility with its tendency to automatisms. Shall we therefore conclude that conversion is practically an automatic performance? By no means. What has been proved is simply that when conversion or an equivalent change takes place in one's moral attitude toward life and destiny and God, it may clothe itself in certain emotional habiliments provided certain factors are present, but otherwise not.

"Would you cast the horoscope of a human life?" says Fouillée. "It is not to be read in the constellations of the sky, but in the actions and reactions of the interior astronomical system—do not study the conjunction of the stars, but those of the organs."¹ Similarly, we may now add: Would you understand the emotional aspects of religious experiences? Do not ascribe them to the inscrutable ways of God, but to ascertainable differences in men's mental constitutions; do not theorize about divine grace, but study the hidden workings of the human mind!

¹ *Tempérament et Caractère*, Paris, 1895, 88.