

1887-8 (cf. p 83. reference to recent publication of George T. Ladd's Physiol. Psych. (1st publ. in 1887) - Jan 10, 5)

About 1886-7?

Unfinished

A Speculation as to the Nature of Mind.

Every student of Psychology knows that the modern study of mind suffers very seriously from the want of a definite and acceptable working hypothesis as to the nature of the human mental process itself. And when I say definite and acceptable working hypothesis, I mean something much less significant than a final and demonstrated hypothesis. In modern physics two hypotheses, that of the etherial medium and that of the molecular

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division of matter, enable investigators to state a vast number of facts in convenient form; and these ~~concrete~~ hypotheses ^(solidified) ~~are~~ ^{have} again and again ^(given evidence of possessing) very great heuristic value. They hold ^{together} known facts ~~together~~; and they help one to find new facts. If the business of empirical science is, as some have expressed it, to describe the phenomenal world in the simplest possible terms, these two hypotheses ~~alone~~ ^{form} a vast uniform background upon which all concrete descriptions of what actually occurs may be drawn. Although this is true in the domain of physics, the facts of

Chemistry are indeed ^(3.) incapable of description without the introduction of new and decidedly complicated hypothetical schemes. Instead of simple molecules we now have to deal with complex structures made up of atoms whose affinities, numerous and various cannot easily be conceived in purely mechanical terms. Still, granting the affinities, the groupings of atoms which the chemist presupposes serve ^{not only} to describe enormously complex facts, but also to guide progressive research in new fields. In the organic sciences neither the molecules of physics nor the atoms of chemistry suffice to explain at present the ~~enormous~~ wealth of properties with which living tissues are endowed; but ~~and~~ ^{nevertheless} the background of mechanical explanation upon which

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the physiologist draws his pictures
aids him in simplifying his work
and in making new discoveries. On
the whole then, the general hy-
pothesis of physical and natural
science at the present time, is that
nature is somehow a ^{composed of atoms and ether} ~~mechanism~~
and that the ideal of a complete
expl anation is given to us by
analytical mechanics. Nobody can
doubt the value of this general
conception ^{of nature}, even if some other
sort of expl anation than one in
terms of moving material particles
were some day to be ^{successfully} applied to
nature, the example of the present
mechanical explanations, in so far
as they are ^{now} successful, would remain
of incalculable value for all
time; and the work already done
on the basis of the hypotheses of atoms,

molecules and ether, ^(5.) would never be lost.

But in psychology we have as yet no such simple, far-reaching conceptions, no general background on which to draw our psychical descriptions. The well-known hypothesis of the soul - as spiritual substance is for modern psychology not so much a working hypothesis, as an excuse for making no explanations at all. Mental phenomena occur, such for instance as emotion, memory, self-conscious reflection and the like, and the soul, which remains throughout an ψ , is continually declared to be just such an ψ as is capable of emotion or memory or reflection. In case the mere existence of this accommodating ψ seems insufficient

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ficient, & may be endowed with various faculties, ^(whose inner nature is) equally unknowable, ~~and~~ i.e. indescribable; and these faculties p, q, r, shall explain the ~~one~~ emotion, ~~the~~ second memory, ~~the~~ a third reflection. Or possibly some other division of faculties and assignment of work to each may seem convenient. In any case we have simply the facts classified and labeled very empirically and accidentally, and our fundamental hypotheses are merely magic names, ~~the~~ ~~unintelligible~~ hung about the facts, like amulets around the necks of the devout. These defects of the popular hypothesis of a soul are sufficiently familiar. Less

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obvious, but equally cogent objections may be urged against certain other now customary psychological hypotheses. Some of these objections will appear ^{more fully} in the course of this essay, that ^{simple} ~~primary sensations~~ ~~and~~ elements of feeling are the atoms of mind, and that the ~~whole~~ ~~mind~~ ~~is~~ ~~no~~ ~~substantial~~ ~~entity~~ ~~at~~ ~~all~~, but a composite, ~~union~~ ~~of~~ ~~the~~ ~~elements~~ built up out of these ~~union~~ ^(of the elements) as determined by their affinities and repulsions, ~~each~~ ~~is~~ ~~one~~ ~~of~~ ~~these~~ ~~now~~ ~~customary~~ ~~hypotheses~~. Surely a way of viewing mind would be more valuable if there could be greater uniformity in the metaphors employed by the inventors of this ~~now~~ ~~accepted~~ ^{quasi-scientific} mythology. But alas, sometimes these atoms of mind simply "come together", whatever that may mean, and compose by mere aggregation our consciousness. Some-

times, however, they ^(S.) "fuse", the identity
of each atom being lost in a sort
of mental pulp. Worse still they
not only "fuse", but certain elements
in the fusion retain in part their
own individuality and "assimilate"
the others. This "assimilation" is a
decidedly curious affair. The resultant
mental product is neither made up
of its original elements, nor is it
anything else than its original ele-
ments. It consists of them, because
there is nothing else of which it could
be composed. Yet it is so unlike
them that only the trained psychologist
can guess the nature of the composition.
For this peculiarity there are indeed
plenty of physical analogies. Nobody
can see the atomic structure of an
apple, and yet nobody need doubt

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that such is the structure. But in the
case of mind our curiosity is aroused
by the fact that the components have
only a mental existence, while
the very mind for which they exist
is entirely unaware of their nature,
of their attractions, repulsions and
fusion as such, until by chance
this mind happens to read a text book
of psychology. To escape the problems
suggested by such ^{self} ignorance our
hypothesis has to add the remark
that of course a great deal of our
mental life must be unconscious,
and that in fact only the products
formed of mental atoms constitute
consciousness, while the parts as
such remain dumb and blind,
or if you like dark. But here
once more is precisely the problem

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itself. Consciousness is to be described,
~~and our~~ ^{and our} hypothesis describes it as an
organized mass of unconscious ele-
ments. It is as if we had to describe
an experience of light, and did so
by declaring it to be made up of a
large number of experiences of dark-
ness; or as if we had to give an
account of what happened when we
listened to a symphony, and de-
clared that we had listened in-
tently to an organized series of
moments of silence. If the unconscious
mental life is to play a large part in our
psychology, as ~~no~~ no doubt it must, surely
we ^{still} need some better account ^(than this) of the nature
of consciousness, and of the relations between
the conscious and the unconscious.

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In brief then, neither the soul as an entity, nor the atomic ^{feelings as the ^{only} elements} ~~elements~~ of mind, can be called good working hypotheses in the psychology of the present day. For lack of a good background, well outlined, our ~~general~~ ^{little} psychological ~~theories~~ ^{descriptions} often remain ^{like} ~~like~~ figures in a ^{Japanese} ~~Chinese~~ picture, floating, and in uncertain relations to one another. We are doing well in empirical psychology; but we ^{still need} ~~must~~ to develop ^{more} definite general hypotheses.

I do not think an effort to formulate a general psychological hypothesis, in the present day, either an original or a premature or an unnecessary undertaking. Original the undertaking certainly is not. ^{Reflective} ~~Thought~~ ^{has} ~~begun~~

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amongst men with psychological hypotheses; and however much we may criticise the ~~classical~~ actual hypotheses now in vogue, one cannot doubt that alternative views must be at best only recombinations of the very elements out of which older views have been made. Yet surely some ^{such} recombination is not unnecessary, in view of the present chaos of fundamental psychological theories; and equally plain it is that, with such a wealth of facts as empirical psychology now offers to us, an hypothesis that does not pretend to be infallible, and that does ~~attempt~~ not to be only provisional and incomplete, need not be premature, in case it is in spirit truly philosophical. As for the philosophy which is to guide the present attempt, I need hardly

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explain that my psychology, like ^{all} my philosophy of nature, ^(must needs be) idealistic in its basis, in so far as, for me, the question, "What is the truth about ^(the human) mind?" means, "^(What) ~~where~~ must the human mind ^(to be when looked at) appear from the point of view of an absolute or standard ^(all-knowing) intelligence?" This question, of course, my essay does not hope to be able to answer with assurance. ~~All~~ ^{But all} science is only an hypothetical answer to the question: "How does the world look to God?" In geometry and in analysis we hold that we know already even a portion of the world of truth appears in the eyes of the highest intelligence. In empirical science

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we everywhere only approach, cryptically such a knowledge. We want to approach the same thing in psychology, as nearly as we can.

One thing, however, I must still insist upon in this introductory statement, and ~~that~~ ^{this} is that the fundamental problem ^{empirical} of psychology, if more easily approachable ^(a philosophical) for ~~an~~ idealist than it would be for a materialist, is still at the ^(for the idealist) ~~outer~~ ^{just} as genuine a puzzle, ~~even after you have established your idealistic basis,~~ as it would be for anyone else. Idealists have too often overlooked this fact. In their lofty and yet really weak-minded contempt for empirical

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psychology they have said: "Surely, if all the world is only one great Mind with its contents, there is no ~~great~~ ^{serious} difficulty in explaining the nature and existence of individual minds. All that is needed is to define the nature of a finite personality. Now a finite personality is merely a self-determined and free limitation of the one great universal Self. ^{ly} Herold's war der grosse Weltenmeister, ^{ly} fühlte Mangel, darum schuf er Geister. To enjoy his own infinite wealth, the Divine One becomes flesh in myriad self-conscious forms, whose ^{mutual} relations, essentially spiritual, need rather to be

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estimated ethically than to be ~~one~~ studied
physically and empirically. A finite mind
is simply the Infinite engaged in a particular
reflection upon a select portion of his own
majesty. He is the game, and accordingly
he appears phenomenally ~~as~~ ^{both as} the players, who
are the individuals, ~~and~~ as the rules of the
game, which are the laws of nature, and
finally as the hits, bases, runs, fouls, and
outs, which are the facts of the physical
^{and psycho-physical} world. Whoever knows him not, ~~stands~~ ^{loiters}
about ^{on the outskirts of the} field, ~~and~~ a curious and helpless
observer, noting here and there a running
and shunting, a stroke and a catch, a jumping
or a sprawling player, but never making

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out the true sense, the inner rationality,
the ~~self-surrendering~~ self-surrendering free-
dom, ~~of the player~~ the self-determined neces-
sity, which mark the whole ~~whole~~ ^{blessed} business.
In view of this ^{fact}, empirical psychology is like
an effort to comprehend the game by counting
the ~~low~~ threads in each player's stockings as
he lolls on the ground awaiting his turn. You may
gather facts in that way, ^{if you will} but they aren't
the ~~low~~ essential facts. You heap up evi-
dence, but it is not wisdom. The specific
gravity of the boat may be an important
fact; but you can't solve the secret by finding
out that. Be a player yourself, and then reflect
self-consciously and rationally on your po-

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sition in the game; and you will get all the wisdom of which you are capable. Or, to drop the metaphor, ~~with~~ an understanding of what is meant by a ^{finite} personality, in physically necessary relations, is to be gained ^{only} from ^{a logical} ~~and~~ ethical criticism of life. Beyond such a critical analysis of your relations, empirical psychology has no need to go. Within the limits of such analysis one will ^{and} ~~form~~ all the needed hypotheses about what a finite personality is and means".

But to ~~all~~ such overweening pride even ^{an} ~~the~~ idealist, if he is a man of hard head, may very properly reply that ^{no} ~~no~~ ^{logical or} ethical analysis of the significance of life can

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as yet make clear to us a priori the great puzzles of mental heredity, of insanity, of ^{the normal} ~~physiological~~ ^{psycho-physical relations,} ~~psychology,~~ ^{or the concrete} of social order.

The value of the point of view just described is ^(indeed) ~~very great~~ ^{very great} and I think, ~~indeed~~ ^(in presence) I shall in fact hereafter ^(indeed) return to it. Nobody believes more than I do that the deepest problems of life are ethical, that finite persons are ^(numberless) God's ways of doing ~~something~~ his thinking, and that the world is a ~~the~~ tragic game, played with himself by the one great artist, as the past time of his eternity. But then ^{for us} he is, after all, this great player ~~very~~ in large part, although not wholly, a Deus absconditus. His secrets are manifold, his ways subtle, his hidings

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places of wisdom as endless as his treasure-
house. Whence, by ^{more} self-consciousness, finds
out God, finds only himself after all, and might
have done better if he had looked farther.
This human subject whom psychology
treats is in fact ~~so~~ enmeshed in the finite world,
~~and~~ ^{and} only vanity can assure him that in his
own ^{rational and inner} ~~ethical~~ experience he ~~can~~ can find ^{all} the
insight that he needs. He is an object for others,
as well as a ^{delight} ~~joy~~ to himself. Like ^{Mars} ~~Venus~~ in
the net of ^{Uranus} ~~Venus~~ he is shamed in the midst
of his subjective joys by the sense that ~~for~~
for ^{all} others who see him in the meshes of physical
bondage, he is a mere thing ^{among things} and not a
triumphant ^{in his love} ~~god~~. He may ~~be~~ ^(and therefore must be) ~~regarded~~

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^{scrutinized}
from without as well as from within,
if he is one of God's ways of thinking, the
question why God's law binds just this
way of thinking to a particular nervous
system, to ~~a~~ special states thereof, to a
special set of sense-organs, to one deter-
mined series of experiences, and to general
to one kind of bondage, is a question that
ethics cannot answer a priori, but that
once answered scientifically, would throw
in its turn
~~great~~ great light upon ethics.

Empirical psychology then, which
takes the human subject and makes him its
object, which looks at him from ^{beyond} ~~within~~, and which is not
content with merely describing his ^{rational} ~~actual~~ personality, is,
even for an idealist, an essential part of human thinking.
And the question, "What then is the human mind?" is for
the idealist at the outset as serious a puzzle as for his
neighbor?

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I.

The fundamental problem of empirical psychology may be summarized in its well-known outlines as follows:-
The mental life of ~~every~~ every ~~conscious~~ empirical subject is found in connection with ~~some~~ a nervous system. The physiological business of a nervous system is to conduct reflex responses to external stimuli. In proportion to the complication of the nervous system is the coordination of these responses. Their physiological purpose is the adaptation of the animal organism to its environment. Their ~~complexities~~ variety and their union must vary in ^{direct} proportion to the ^{organization} ~~activity~~ to the activity, and ^{to} the ~~complexity~~ ~~of~~ degree of

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adjustment of this organism to its surround-
ings. "In the earliest stages", says Romanes (Mental
Evolution in Animals, p. 28) "reflex action is nothing
" more than a promiscuous discharge of nervous
" energy by nerve-cells, when they are excited by
" a stimulus passing into them from their at-
" touched nerve-fibres. But as the animals become
" more highly organized, and distinct muscles
" are by degrees set apart for the performance
" of distinct actions, we can readily understand
" how particular nerve-centres are likewise by
" degrees set apart to preside over these dis-
" tinct actions; the nerve centres then perform
" the part of triggers to the particular muscular
" mechanisms over which they preside - triggers
" which can only be loosened by the reception

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" of stimuli along their own particular lines
" of communication, or nerves. Thus, for instance,
" in the star-fish - animals which are somewhat
" higher in the zoological scale than the jelly-fish,
" and which have a more highly developed neuro-
" muscular system - the ganglia are arranged
" in a ring around the bases of the five rays, into
" which they send, and from which they receive,
" nerve-fibres; the ganglia are likewise connected
" with one another by a pentagonal ring of
" fibres. Now experiment shows that in this
" simple, and indeed geometrical plan of a
" nervous system, the constituent parts are
" able, when isolated by section, to preside over
" the movements of their respective muscles;
" for if a single ray be cut off at its base, it

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" will behave in all respects just like the entire
" star-fish, - crawling away from injury, towards
" light, up perpendicular surfaces, and righting
" itself when turned upon its back. That is to say,
" the single nerve centre at the base of a single
" separated ray is able to do for that ray what the
" entire pentagonal ring, or central nervous
" system, is able to do for the entire animal. ---
" -- The beauty and delicacy of this mechanism
" is shown when in the unmanipulated animal
" all the nerve-centres are in communication as
" one compound nerve-centre. For now, if one ray
" is irritated, all the rays will cooperate in making
" the animal crawl away from the source of
" irritation; if two opposite rays are simultaneous
" irritated, the star-fish will crawl away

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" in a direction at right angles to an
" imaginary line joining the two points of ir-
" ritation. And more prettily still, in the globular
" Echinus, or sea-urchin (which is, anatomically con-
" sidered, a star-fish whose five rays have become
" doubled over in the form of an orange, soldered
" together and calcareous so as to make a rigid
" box), if two equal stimuli be applied simulta-
" neously at any two points of the globe, the direc-
" tion of escape will be the diagonal between them;
" if a number of points be simultaneously
" irritated, one effect neutralizes the other, and
" the animal rotates upon its vertical axis; if a
" continuous zone of injury be made all the way
" round the equator, the same thing happens; but

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"if the zone be made wider at one hemisphere
"than the other, the animal will crawl away
"from the greatest amount of injury."

What Romances thus illustrates
in the case of the lower animals, is observable
in various degrees all the way up the scale. ^{Each} nervous adjustment is a special response to a particular stimulus. By means of a complicated system of ganglia and of connecting fibres, complicated responses to many ^(and successive) simultaneous stimuli are rendered possible, and are coordinated together so as to be useful to the organism. Even the most elaborate conduct of the highest beings, ~~is~~ unless one supposes ~~is~~ ^{to be} contained in it, is only a ^{complex} ~~series~~ of such reflex adjustments. Increasing complexity and coordination are observed as we go up the scale, but nothing essentially novel marks the elementary process itself.

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In view of these facts the theory of the relation between the mind and the nervous system seems at first sight to have its way comparatively clear before it. It must ^(apparently) recognize as an ultimate mystery the fact that consciousness and nervous system have any relation at all; but admitting this mystery, the rest of the matter seems ~~at least~~ to be ~~clearly~~ determined once for all. In connection with these complicated nervous structures we find, as we go upwards, evidences ~~that~~ of more and more complex and unified mental life. Corresponding to the number and

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variety of the nervous adjustments, we find the mental life of higher animals complex and various. Corresponding to the ~~unstable~~ ^{unstable} ~~contents~~ of the ^{higher} nervous structures, we find the same mental life increasing in ~~complexity~~ self-conscious wholeness and interconnection. Consciousness, then, runs simply parallel to the nervous structure. Seen from without, the higher animal is a self-adjusting mechanism, which responds to its environment in such a way as to show itself to be one organism with many organs, one system of endlessly numerous parts. Seen as

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it were from within, this same organism reflects its multiplicity in a mental life that possesses endlessly variable thoughts; and asserts its unity as an organism by uniting these thoughts into one consciousness. The mental life runs parallel to the nervous life.

How near then lies the conclusion of Wundt, a conclusion which, repeated in every successive edition of his Psychology, represents

the views of a host of modern authors:—

"Nach seiner physischen wie nach seiner psychischen Seite ist der lebende Körper eine

"Einheit. Diese Einheit beruht aber nicht auf

"der Einfachheit, sondern im Gegentheil auf

"der sehr zusammengesetzten Beschaffenheit

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- "seiner Substanz, Das Bewusstsein mit seinen
- "mannigfaltigen und doch in durchgängiger
- "Verbindung stehenden Zuständen ist für
- "unsere innere Auffassung eine ähnliche
- "Einheit wie für die äussere der leibliche
- "Organismus, und die durchgängige Wech-
- "selbeziehung zwischen Physischem und
- "Psychischem führt zu der Annahme, dass
- "was wir Seele nennen das innere Sein der
- "nämlichen Einheit ist, die wie äusserlich
- "als dem zu ihr gehörigen Leib anschauen" #

This, then, ~~is~~ is der Weisheit letzter
Schluss! But alas! it is so much the more the
beginning of problems, which, if they be indeed
Wurtt, Physiologische Psychologie, Bd II, p. 553 (3rd ed.)

unrecognized by much which takes itself for modern wisdom, are none the less human, inevitable, and genuinely philosophical.

In this paper I shall for lack of time say little about the first and most familiar of these problems. Granting namely all the premises upon which this conclusion of Wundt is founded, we still have well-known efforts to interpret the genuine nature and sense of ~~the~~ the parallelism itself. Shall we define this, which Wundt calls die naimliche Einheit, ^{seen by} ~~which~~ the observer ~~is~~ as body, by the subject as his own mind, in terms of mind, or in terms of matter, or in terms of the Unknowable? The ~~first~~ ^{third} view is the Spencerian. Mind and body are aspects of the Unknowable.

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their true relation is mysterious, because they are respectively the inner and the outer ~~aspects~~^{appearances} of an ultimately mysterious X. Were I content with this view, I should write no further, nor even think further ^(this or in fact upon) of any topic. If I am always and everywhere in presence of an Unknowable, as Spencer ^(frequently) declares me to be, I should certainly regard all my opinions about both the problem of mind and the affairs of daily life as alike dreams. I should ~~not~~ believe neither Spencer nor anybody else as to any topic in heaven or earth. If, however, there is in such sense a knowable element in my world that all fair questions might conceivably be answered, then I shall

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search for answers ^(to my questions) so long as I retain my interest in things. And what fairer question can well be found than this one about the nature of the most familiar of all ^{the} humanly interesting relationships. If the relation of body and mind is a mystery, as, so far, it no doubt is, that is because of our ignorance, and not because the relation is essentially an absurd one, or ^{because} questions about it ^{are} necessarily irrational.

Meanwhile, by asserting our X, we have actually gained nothing. We have only stated our problem, defined our ignorance. If mind is one aspect of the same reality which an ^{outside} observer calls a nervous system, what is this reality?

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I pass over the old-fashioned materialistic answer to this question, for reasons which the reader of Büchner and of the controversy of which Büchner was the centre will not need to have repeated here, and come to the first answer on our list, that of the Mind-Stuff theory. It is not however my intention to go at length into the Mind-Stuff controversy. In an article in Mind for ~~1881~~ July, 1881, I suggested some criticism of Clifford's doctrine which I do not mean now to repeat. A later form of the ^{Mind-Stuff} ~~same~~ doctrine, ~~given~~ ^{written independently and} with beautiful clearness and force by Dr. Morton Prince in his book on The Nature of Mind and Human Automatism (Philadelphia, 1885),

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may however serve for further citation in this connection. Consciousness, according to Dr. Price, is not the "inner side" of the same mysterious "substance" which, veiled from without constitutes what somebody calls my body, but rather, in case of any particular mental event, said to be accompanied by ^(nervous change) ~~rather~~ ~~consciousness~~ "is the actual physical change as it really occurs, not as it appears to us" (i.e. to an outside observer) "objectively. It may be called the essence of physical change in protoplasm. In other words, a mental state and those physical changes which are known in the objective world as neural undulations are one and the same thing, but the former is the actuality, the latter a mode by which it is presented to the consciousness of a second person, i.e. to the non-possessor of it." ^(Op. cit. p. 54) As for the parallelism,

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between neural changes and mental states),
Dr. Prince insists that it is no mere parallelism
of aspects of the same unknown entity, but
rather, in exact terms, ^{you} feel a pain and I
conceive that with a microscope I could look
at your trembling nerve structure as at the
physical side of the feeling. "It is one process in
"you, the ~~physical~~ sensation of pain, which is
"the real activity. Here then", continues Dr. Prince,
"lies the parallelism of the phenomena: your
"consciousness of the pain is the correlate of my
"apprehension of this consciousness as neural
"vibration. The parallelism is between your con-
"sciousness and my consciousness of your con-
"sciousness, or what is the same thing, between
"the consciousness in you and the picture

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"in my mind of neural vibrations. The former
"is the reality, the latter the symbol of it. There
"is an invariable concomitance of these facts."#

The connection of mind and matter "becomes apparent,"
says Dr. Prince, elsewhere, "now that the problem
"is found to be not how molecular changes become
"transformed into consciousness, but how conscious-
"ness comes to be apprehended [by an outside ob-
"server]" as physical changes.*

This way of interpreting the
facts which Wundt states in such a solemn
and mystical way, is at any rate refreshing-
ly ~~simple~~ fearless and straightforward. But
the reader of Dr. Prince's book notices with some

Op. cit., p. 59.

* Op. cit., p. 60.

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anxiety that very little is said about the other matter which plays such a part in Wundt's summary. Wundt's conclusion is "dass was wir Seele nennen das innere Sein der nämlichen Einheit ist" &c. Now of this Einheit, which, after all, mysticism apart, has its very noteworthy meaning, Dr. Prince has as little to say as the advocates of the ancient hypothesis of the Soul have ^{had} much. In any case the puzzle of the so-called "parallelism" is two-fold. I have a pain, have while it is mine, ^(as ideal observer) you in Dr. Prince's account look at my brain, say through a conceived microscope, and see what you call "neural tremors". Now here Dr. Prince is on safe ground, and his hypothesis molts no feather. The fact is, he declares, that I have

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a pain, and that you have a feeling which you define as a seeing of neural tremors, and that these two facts run parallel to each other. If my pain alters or ceases, you, as observer, will have a feeling as if what you call the neural tremors changed their aspect. So far all is well. But now, as it chanced, I have in me something called an unity of consciousness, ^(for instance) when I think out a problem in geometry. Here again, you, as observer, see what you call neural tremors. ^(as in case of the pain, still) These ~~these~~ correspond with my complex of feelings, ^{and so are parallel to the contents} ~~with the unity of~~ my consciousness. Do they, however, correspond with the unity of my consciousness? Do this second kind of parallelism ^{to be affirmed of them just as was the first.} What, in these whorls of my tremors looks

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to you like unity. Having learned of
one parallelism, namely that between your
feeling of what you call nerve-tremors, and
my feeling of what I call pain, you now
have to learn of ^{this} ~~another~~ parallelism, very
novel, and very delicate. When ^(as I study geometry) looking back
over hours of work, I say at last, "I have it;
the proof is found, the problem is solved", and
when, in consequence, all my ideas unite
in one self-conscious and rational insight,
in one triumphant comprehension of many
things with a single mental glance, you, looking
on as ideal observer, witness ~~eddy~~ eddies
upon eddies of interlacing nerve tremors, and

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must learn afresh that here your obser-
vation of a most confusing mass of ^{various} facts is
"parallel" to an extremely connected and clear
inner unity of mine, viz. [&] my consciousness
that I see the one in ^{the} many, ^(geometrical) the explanation
in its consequences. It is hard ^{indeed to comprehend} what
in you is here parallel to my unity ~~of~~
as such ^{at} ~~after~~ all.

But I hasten to suggest ^(myself) a solution
for the difficulty into which I have perhaps
unfairly brought Dr. Prince's ideal observer of
the neural tremors. Of course ^(this observer) ~~it~~ is no doubt
a rational enough creature himself, and,
while he observes the interlacing eddies of
nerve processes, he will not lose ^{his} ~~his~~ head.

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He will see not only the tumors, but my whole organism. He will use not only his ^(skull-piercing) ideal microscope to examine what he calls the molecules of my brain, but he will use his unaided eye to observe my whole conduct. At the moment when I solve the problem, he will find this conduct altered. Before, while I wandered about in the mazes of my puzzle, he will have found me confused and uncertain in demeanor; ^{now fixed, now} the eyes ~~wandering~~; the fingers, ^{now} writing or tapping, now running themselves through my hair, now scratching my head, now tearing ^(bits of) paper; my mouth now closed, now muttering appropriate oburgations; my legs now crossed, now stretched, now ^{went in} ~~under~~ under me. Corresponding

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To all these uncertainties of action he will have seen vague and confused innervations, nerve tremors now leading to convulsive general discharges, now losing themselves in mutual inhibitions, or ^(finding relief in) incomplete motor ~~stimulations~~ ^{stimulations}.

"This organism", he will have said "is just now like sweet bells jangled, out of tune and harsh. It is a reed shaken by the wind. It lacks teleological unity of response to its environment."

But when I have solved the problem, then, if my moment of self-conscious unity has any kind of extent or life in it, my observer will find my whole inner and outer demeanor changed. The relatively diffuse ^{and irregular} functional hyperaemia of ~~the~~ ^{my} brain cortex during

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my puzzled mental wanderings, will, after the first flushed moment of the mere feeling of personal triumph, give place to a definitely marked distribution of circulation in ~~the~~ narrow channels as I repeat in mind the processes of reasoning which lead to the desired result. My motor reactions will grow precise, connected, significant. With pen in hand I shall hastily jot down my result and my method. Perhaps I shall write to my friend who set me the problem, letting him that he hit on a good thing that time, but that he could not quite catch me by such a trifling difficulty after all.

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In short, to my observer, I shall appear as engaged in definite, if ideal, motor responses, having a connected significance, and expressing, in a very peculiar ^(but very important) ~~and quality~~ sense, the unity of my organism. No wonder then that an activity which, considered as a whole, has such a fine teleological unity, ^{such elaborate} ~~and~~ relations to my place in the world, should be the mere physical apparition to another of what in and for me is known as the unity of my consciousness.

In short, ^{just} as the ^(group) ~~single~~ tremor is the appearance, ^{behind} ~~of~~ which the inner pain is ^{only} the substantial and real existence, so the unity of my motor reactions, ^(as it does) ~~as~~ expressing my organic evolution, and my adaptation to my environ-

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ment, is after all only the show, behind which the real truth is my own consciousness of myself as one.

Such, as I judge, is the answer which Dr. Prince might make to any objector who appealed to the unity of consciousness as a fact incompatible with his theory. The ^(rational and self-conscious) highest thought, after all, displays itself in more or less obvious motor reactions. These ~~are~~ may be symbolic, but they are none the less real, and ^(they are, physically speaking, very) highly organized. They may be so far inhibited as to take the form of faint innervations only, ^{as in cases of} ~~actual~~ unspoken words, which innervate imperceptibly the organs of speech. ~~or~~ But visible or invisible, effective or suppressed, the motor reactions

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which accompany abstract thinking, and which thus express the momentary form assumed by our self-consciousness, are such as come from the innermost essence of the unity of our organism. Here then we find an expression, in terms of the Mind-Stuff hypothesis, of the nature of self-consciousness. An observer sees in my behaviour ^(significant) the reaction of an united organism upon its environment. ~~But~~ ^{for my part} I know that the true fact corresponding to this observation is my own knowledge of myself as one.

II.

So far then, I have given ^{to} Dr. Prince's view, or at any rate my interpretation of it, the ^{benefit of the facts} ~~benefit of the facts~~ on the subject of the nature of

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the "Ego"; Dr. Prince has spoken, but in another connection, namely with ^{special} relation to the problem of Free Will*. While his account of the consciousness of personality as there given, seems to me on other grounds faulty, I find nothing in it that would oppose such an interpretation as I have just suggested. At all events I am anxious to give the foregoing view a very fair hearing. I believe myself that the ^{actual} facts of the unity of consciousness are really fatal to the Mind-Stuff theory ^(at least) in its unadulterated form. But as this is no place for an exhaustive discussion of the ^{many} puzzles that

* Op. cit., p. 135

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the world of Mind-Stuff would ~~be~~ ^{leave in our hands regarding} ~~be~~ ^{the} theory of Knowledge, ~~the~~ ^{physical} theory of causality, ~~the~~ the theory of Evolution, and ~~the~~ other important doctrines, I can only say now that in speaking of its bearing on the Unity of Consciousness I have no desire to use that ~~word~~ ^{phrase} as a mere name to conjure with. The Unity of Consciousness is a great problem, not a ~~readily~~ ^{easily} definable datum, and the Mind-Stuff theory may as well have its chance at that ~~difficult~~ problem as any other doctrine.

I conclude then at this point of the discussion, that the Mind-Stuff theory is the best expression possible ^{the true sense} of Wundt's mystical formula, and that the real

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question before us is to see whether, even thus interpreted, the mystical formula is an adequate expression of the facts of consciousness, ^(and of nature) and in particular, is what we call the Unity of Consciousness really capable of being regarded as so parallel to the physical unity of the organism that the one may be ~~the~~ ^{an "das} "innere Sein" ~~der~~ ^{der} namlichen Einheit" which is externally perceived as the other.

~~The~~ ^{One very} ~~ordinary~~ ~~most~~ familiar objection to this ~~doctrine~~ doctrine has in the foregoing been deliberately set aside. We generally ~~hear~~ ^{hear} that the ~~body~~ ^{brain} is many, being made of atoms, while the mind is one. This ~~fact~~ ^{fact} is sufficient to ~~set~~ ~~aside~~ answer ordinary materialism, but not to refute so cautiously elaborate a statement as

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Wundt. Wundt defines his "Einheit des Leibes" in frankly teleological terms, and Dr. Prince, for all I can see to the contrary, may, if he chooses do the same. For Wundt's teleology is of course an empirical and not a theological one. The physical organism is One because its behaviour in adjusting itself to its environment has a systematic and ~~causal~~ ^{useful} relation to its own ~~existence~~ ^{preservation} ~~and~~ ^{evolution} ~~perfection~~. ~~But~~ ^{Moreover} this unity is genuinely objective. It is for Wundt as real a physical fact as are the atoms. ^{Metaphysical} explanation of the essence of this unity is ^{meanwhile} ~~darkly~~ ^{darkly} limited at by Wundt, who has a habit in his summaries of giving you an impression that he feels limited by the possessor of many clear ideas which he

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has never yet felt himself ready to bring to light. But if Wundt's metaphysics ~~still~~ seems to less cautious speculators somewhat unfinished, his assertions are surely quite capable of metaphysical development. Grant that the body is, in its empirical reality, no mere multitude of atoms, but a teleological and at the same time objective unity, and why can you not hope to find as the inner meaning of this unity precisely the unity of self-consciousness itself? Will not the great problem then be solved? And the old fiction of the I called a soul, which was to be different from the body — will it not go where it belongs? Everything then turns upon the answer to the question: Will the word parallelism

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expressively ~~express~~ ^{discoverable} the ^(between) relations ~~of~~ ^{subject}
we call the physical conditions of the or-
ganism and the inner states of conscious-
ness? ~~and~~ And in discussing this question
we ^{shall} wholly grant, for the sake of argument, that
the ~~physical~~ body is actually known, on its
physical side, to be an objective and teleological
unity.

As I approach ^{afresh} this, the central problem
of the present essay, I want to make clear my
attitude towards ~~certain~~ ^{a certain} very familiar ~~concepts~~ ^{conflict}.
It is customary in this whole discussion, to take
either one of two positions. Either, ^{investigating} ~~approaching~~
the matter from the mental side, ^{a philosopher} ~~one~~ ^{insists}
~~insists~~ upon some aspect of consciousness

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which, as he thinks, simply cannot be regarded as the mere parallel of any physical fact at all. In this case he triumphantly says, "Now I have proved ^(by this non-parallelism) the utter separateness and independence of that which lies at the basis of spiritual life. ^{And so} ~~the~~ way is open to prove ^(in the sequel) freedom, or immortality, or whatever else has a hyperphysical meaning." Or, on the other hand, our investigator approaches the matter from the physical side, and observes empirically the absolute dependence of every element and process of the mind upon the state of the physical organism. And hereupon he assures us that the parallelism

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is proved; and that the mind's unity is only
an inner assertion of the same fact which an
observer's eye sees as the unity of the body. If I
could rest content with either one of these ways
of viewing the facts, the present paper would not
have been written. But my great trouble in
philosophy is that ^{all deeper} problems have such a
way of being not merely puzzles, but para-
doxes, where the truth is not ^{so much} ~~only~~ hidden, ~~but~~ as
tangled into a Gordian knot of seeming con-
tradictions. If one could state facts and be
done with the business, if one could say:
"The mental unity is incapable of expression
^{in terms of} ~~in terms of~~ physical or organic unity", or again:

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"The mental unity is the inner correlate of certain organic conditions!"— in either case I should be as satisfied as any triumphant investigator of the past has ever been, I should preach my little sermon on spiritual unity and the ^{superiority} ~~triumph~~ of mind over matter; or, if I took the other view, I should discourse of the unity of nature and of the ^{humble} place of the human organism in the physical world. It is so easy, after all, to win a cheap victory by either of these methods, so hard to face the paradoxical fact, which both modern investigation and philosophical reflection force upon us from every side, and which, whatever we may say, gives us the real ^{present} ~~general~~ problem of the nature of mind. This para-

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doxical fact is simply that both the foregoing opposing opinions are actually true and can be shown to be so. That is, at once we can and must say that much of the unity of our consciousness is no possible correlate or inner aspect of any physical fact, and we can and must affirm that every element of our consciousness, including ^(the unity of our consciousness included) our loftiest ideals and ^{of} our most abstract thinking, is through and through dependent upon physical conditions.

These two ~~opposing~~ views, usually so sharply contrasted in discussion, are not only equally admissible, but, if we face the ^{truths} ~~facts~~ they are equally inevitable. Yet perhaps the nature of the paradox can better be understood if we examine a little

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more closely the ~~fact~~^{problem}. I am anxious to have both the foregoing propositions understood, because just in the seeing of this paradox, as I fancy, lies ~~the~~^{our} chance ^(at least hypothetically) of solving the problem.

The unity of consciousness then, in the first place, contains elements which cannot be regarded as parallel to the unity of the bodily life. What I call myself is simply not "das inmere Sein der nämlichen Einheit" which other men call my organism. This assertion I make notwithstanding my foregoing ~~admission~~^{admission}. In my discussion of the supposed case of the solution of ^{geometrical} problem I have made all possible concessions to Wundt's view. I must now insist on another aspect of the same facts. Thinking, namely is

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not only the correlated numerous and definite motor reactions. It is also a ^(series) reflection on my own meaning as my own meaning. Thinking as a momentary and direct putting together of conceptions may be ^{simply} parallel to my present motor reaction in presence of my environment. In such direct cases, as when I write a letter, my pen and paper are my direct objects. My thought is simply the accompaniment of my self-adjustment to these objects and to their unseen but well-known physical relations to distant things. But when, as in self-criticism, in introspection, in philosophical analysis of the work of thought, in common-sense efforts to

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give a truthful account of my own motives and purposes, I make myself my own object, think about my thoughts, confess my own previous failures to understand myself, bring to consciousness ~~my own~~ ~~the~~ unconscious elements of my own mental life, my object is no longer external, my adjustment is no longer one capable of being stated in physical terms. To be sure, physical processes accompany this new adjustment. Reflection too depends upon ^(or unhealthy) ~~healthy~~ brain activity. Self-examination, self-confession, brooding, analysis of the work of thought, ^{all alike} go on only when the brain is disposed to favor such processes; but the point is that the inner meaning of

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the mental process is no longer parallel to the activity of the nervous process. Connection there no doubt is; but similarity of significance is now lacking. The organism is still going through a series of reflex adjustments to its outer environment, but the mind is corresponding to its own other self. The observer sees me in the attitude of deliberation, as if doing as yet nothing, but preparing to do something. Actually I am ^(all the while) pursuing very actively game which feeds in no earthly pastures, hides in no physically discoverable forests. I am hunting in the mental wildernesses, and my quarry is thought itself. Plainest of all is this curious non-^(of physical and mental)parallelism in case of the activity which, most

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familiar of all mental processes, ^(nevertheless) is the great
crux of all empirical psychology. I refer to
conscious memory, Kant's Synthesis der Recog-
nition, which according to him, involves his
wonderworking Einheit der Apperception.# Memory
is dependent, in one sense, upon the actual
repetition in some form of the conditions of pre-
vious experience. In this sense memory is a
mental fact that may correspond to a present
state of my organism. ^(organic) All adjustments ^{depend upon} ~~are~~
^{a sort of} physical memory. I touch a glowing
coal some time during early childhood,
and feel a pain, ^{while the shock} ~~which~~ causes a reflex

#Kritik der reinen Vernunft, in the Deduction der
Kategorien as expounded in the First Edition.

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contraction of the arm. In future the sight of a glowing coal too near my hand brings about a similar reflex without the touch. Mentally correspondent to this adjustment is the thought: "glowing coals will burn if I touch them, and so it's best to shrink". But notice: although the present physical adjustment to the glowing coal depends upon my previous ^{physical} experience, I need not ^{consciously} remember the former experience as a past actuality in order to have the thought: "glowing coals burn", or in order to shrink. Physically speaking, all that is necessary is that my organism should have been so affected by its former experience that it now adjusts itself to the present

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of this glowing coal. My organism, in fact, cannot adjust itself to the past glowing coal that burnt me once, and simply does not do so. For the same reason the thought that is parallel to my present organic adjustment is simply the thought: "glowing coals burn", - nothing else. How I came by that thought makes no difference to a consciousness which shall be simply parallel to my present organism. Even so, numberless highly organized instinctive adjustments might be inherited by me from the experience of my ancestors. I should not need to remember in any conscious or reflective sense what my ancestors went through in order to get these

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instincts. I should inherit those instincts as part of my organic unity. My consciousness, ^{running} parallel to this unity, would reflect it in the form of certain fixed prejudices, desires, expectations, choices. In all this there would be no sort of conscious memory, although the process would depend upon a nervous conservation of the effects of former experiences.

But now, in some cases, we have conscious memory. ^(then do indeed, just as before) We revive the past organically, old brain states repeating themselves. So far, however, there is only material for present consciousness. The memory ^{would be} simply actual recall, not reflective knowledge that this is a recall. When however I not only ~~recall~~ repeat past states of my brain and have correspondent thoughts, but say to myself "This thing was ^{for me} in the actual

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past," to what does my present thought correspond? To the adjustment now made by my organism as a physical unity? No; only to the actual world does my organism adjust itself. To what then? To a thought of mine which is no longer, but which was. In its day that thought was parallel to an organic condition of mine; ^{and in} ~~at~~ the present certain thoughts of mine are now parallel to other organic conditions. But the parallelism between this thought and ^(past thought) that has no meaning expressible in physical terms. My knowledge that the revival is a revival is not correlated to any present physical reality. Dr. Prince's observer would ~~only~~ see in my brain neural tremors corresponding to the

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present idea in my mind. But he would
and could see nothing corresponding to
the correspondence between my present and
my past. Yet the thought of such a correspondence
is the presupposition of all higher reflection.

From the physical point of view,
my organism, mystical Einheit and all
is a present fact. The thought which ~~shall be~~
das innere Sein of this organic unity ^{(must then be}
thought of something present. # But thoughts
which correspond not directly to present facts
at all, but to distant and no longer ex-
istent thoughts, cannot then belong to this
inner reality of the present organic unity.

cf. Spinoza, Ethics, P. II, Prop. XI: Primum, quod actu ~~est~~
Mentis humanae esse constituit, nihil aliud est, quam
idea rei alicujus actu existentis. - On this very rock ^{the existence of}
memory and of reflection, Spinoza's whole system, in fact, suffers shipwreck.

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The organic unity cannot ~~be parallel~~ ^{be parallel} in any ^{proper} sense of the theory of parallelism, to the ~~correspondence~~ ^{parallelism} between a pair of ideas one of which now exists nowhere in ~~this~~ present consciousness or in any other.

Even so, however, we find it to be the case with all reflective thought, where, in fact, ^{conscious} memory is only a simple case. When I reflect I first think, and then make my thought my own object, with which I either agree or fail to agree, according as I succeed or do not succeed in my reflection. Now the thought which reflects is no doubt accompanied by nerve tremors, like the thought upon which it reflects. But if

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these nerve tremors were the same, the reflecting thought and the thought upon which it reflects would doubtless be the same thought repeated. This however is not the case. The reflecting thought may be very unlike the thought reflected upon. The latter may have been the proud ^(self-praise) ~~praise~~ of a ~~man~~ man about to do a kindness: "How generous I am!" The reflecting thought may be the cool observation: "I deceived myself, and in fact I was hypocritically selfish all the time ^(and was) seeking only my personal glory." This reflection is surely ~~the~~ das innere Sein of a very different organic Einheit from the first. Yet the second

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Thought has for its object the first. Rightly or wrongly it pretends to judge the other. Now how can one nerve tremor have another nerve tremor for its ^(criticism) object? And if Dr. Prince's observer sees with his microscope all that is visible of both thoughts, and so has an experience that runs parallel to each, surely his experience does not and cannot run parallel to precisely that relation of the two which gives the second thought its whole significance. For this critical relation, whereby the one thought estimates the other, and fairly or unfairly decipheres its inner meaning, is a relation which simply has no conceivable physical aspect, expressions

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or parallel. And yet of just such inter-relationships our ^{self}conscious thinking is made up. Unless we are prepared to describe one nerve tremor as criticising another, one state of the organic Einheit as laughing at a former ~~case~~ ^{state}, one configuration of brain atoms as deciphering the meaning and intent of another configuration, we must simply give up the hope of describing reflective consciousness as das innere Sein of anything whatever that can be äusserlich angeschaht. Notwithstanding then all my previous concessions I must draw the line at reflective thought, and ^{must} regard the favorite modern theory of the parallelism

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of brain and consciousness as in this respect hopelessly defective.

Many others, of course, have done the same, and have forthwith taken refuge once more in the ancient hypothesis of that convenient X , the Soul. So for instance did Lotze, a man who had in general no great love for X and ^{ally} its works. So, ~~and~~ ^{very} recently, ~~the~~ ^{again} Professor Ladd has done at the end of his fine Physiological Psychology. But, without regard to the ^{(as a structure} ~~convenient~~ ^{furnishing} ~~the~~ points of attachment for the wings of our traditional immortal life, I feel that in this life X is an hypothesis for which we have no serious need.

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(for the rest)

And idealist, ^(for the rest) has all the immortality that anybody needs ready prepared in his world for all beings who may prove to be significant enough to be needed in a future state. ^{But unless} ~~deceases~~ the moral order ^(of the world) needs me in a future state, I shall, ^{certainly} ~~not~~ end here like a dog ~~because~~ through I had as many souls as there are tiles on the roofs of ^{the} ~~the~~ houses. ^{And if} ~~God's moral~~ God's moral order ~~does~~ ~~not~~ need me after I am dead here, ^{and} if the day of the ~~the~~ Lord proves to be, in my unworthy case, light and not darkness, doubtless the moral order, which in that ^{event} ~~case~~ will ~~not~~ ^{command} ~~order~~ me

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to do more work, will provide the necessary
arms, ^{and} legs ~~and~~ ^{and} wings suited to my state, and
will find no difficulty in fastening them in
some way onto whatever X I shall then
carry about with me. Hence the hypothesis
of a soul needs at present only a theoretical
scrutiny. Its moral and religious sig-
nificance ^(for enlightened thinkers) ~~is~~ simply nil. Homer believed
in the soul; but as he had a ^{gloomy} ~~dark~~ idea of what
the future state might be, he very sensibly
observed that the wrath of Achilles sent
the souls of many valiant heroes to Hades
(where they had, as we know, a rather dull
time), but left themselves (i.e. the only part
of them that ever fought men or wood

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women) ~~at the hands of~~ a prey to the dogs
and the birds of air. Such is the uselessness
of having a soul if, like most people who
even in our day, and with wholly different interests,
become sentimental over the tedious in-
anities of their imaginary future state, you
do not know what to do ~~with~~ ^{there with}.

But to return to our business of
theoretical scrutiny:—that the mental life is not
^{simply} the minor aspect of the physical life, seems now
clear. If it were, we should never reflect; we
should live in the present ~~on~~ ^{with} our minds, as
we do ~~on~~ ^{with} our bodies. We should adjust ourselves
to the world, and ^{should} know that we adjusted ourselves.
We should even use our past experience. But
we should never know that this was our past
experience. We should know no self-examina-

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tion, no self-criticism, no analysis of our thinking. But in fact we ^{do} live constantly in the midst of second intentions, rules, maxims, memories, reflective generalizations, self-estimates. To none of these ^{forms of thinking} is there any physical unity, ^{directly parallel,} however much they may all be accompanied by nerve changes, ~~what~~ to what then shall we refer this conscious reflection? To a higher self, independent of the body?

Here ~~appears~~ ^{enters upon} the field another empirical guide. Lest in our ^(health and) pride we should forget the utter and abject dependence of ~~ourselves~~ even our ^{highest} reflective consciousness upon the condition of our organisms, mental pathology, ^{grimkeeper's treasures} that ~~storehouse~~ of curious psychological information which modern research is now opening to science, appears to warn

us of our helplessness. The value of mental pathology lies to be sure not so much in its ~~general~~ ^{fundamental} principles, which it shares with physiological psychology, ~~but~~ in the wealth and many-sidedness of its illustrations. Apart from pathology we should know that ^{all} reflective processes have some dependence upon brain states; ~~(but we should underestimate the significance of the dependence)~~ ~~and~~ ~~we~~ ~~should~~ ~~not~~ ~~know~~, ~~as~~ ~~we~~ ~~now~~ ~~do~~, ~~that~~ ~~every~~ ~~element~~ ~~and~~ ~~every~~ ~~function~~ ~~of~~ ~~consciousness~~ ~~has~~ ~~the~~ ~~most~~ ~~intimate~~ ~~connection~~ ~~with~~ ~~processes~~ ~~in~~ ~~nervous~~ ~~tissue~~. We should, ^{perhaps} say, as many have done, Consciousness is aroused to activity by brain processes, but, once aroused, can continue in some respects ^{on higher} ~~its~~ spontaneous processes without

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more than a general support from nerve function. Or we should say, as men who ought to know better have ^{but} recently said, the material that reason uses comes from below, through the aid of nervous ~~processes~~ activities. But the rational digestion of this material is not determined ^(in any way) by our nerve structure. An insane man, we should ^{then} declare, ^{must be} one whose deranged nerves give him falsified data, hallucinations, painful feelings of ^{melancholy} ~~depression~~ or of terror, fixed ideas, ^{illusions} ~~visions~~ of exaltation, or the like. Having false data, he must needs ⁱⁿ reflect ^{each false results} ~~truly~~ and the ^{diseased} change in his nervous processes alters, not the ^{inner} form of his rationality, not the ^{true} type of his reflective consciousness, but the premises of his experience.

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Reason thus ^{still} soars exalted above even
the wreck of a degenerate nervous system.
Self-consciousness is in form and function
the same, however its materials alter.

But in fact this pride of reason
is unfounded. Reason does well to say that its
own inner functions are not mere internal views
(^{accompanying}) its physical organism; but ^(as a matter of experience) all its functions are
slavishly dependent upon the health of this or-
ganism, and alter therewith. Nor can the altera-
tion be explained as merely a change of the
stock in trade with which reason works.
The very functions of reason themselves suf-
fer when