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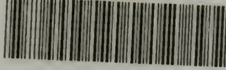


# A STUDY OF LOCKE'S THEORY OF KNOWLEDGE

DISSERTATION

PRESENTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN THE GRADUATE SCHOOL OF THE OHIO STATE UNIVERSITY

BY

RAYMOND GREGORY

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WILMINGTON, OHIO
1919

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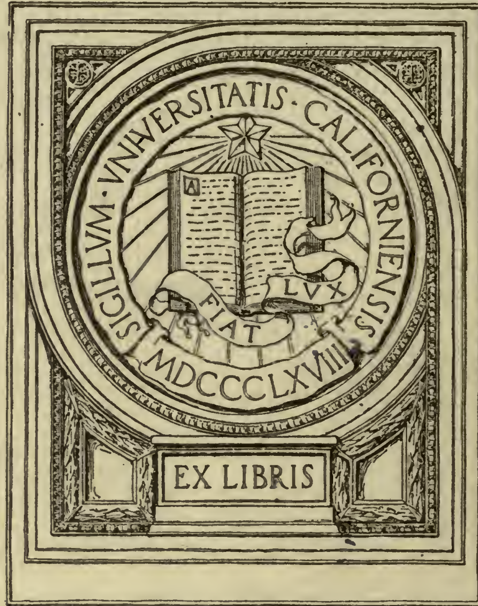

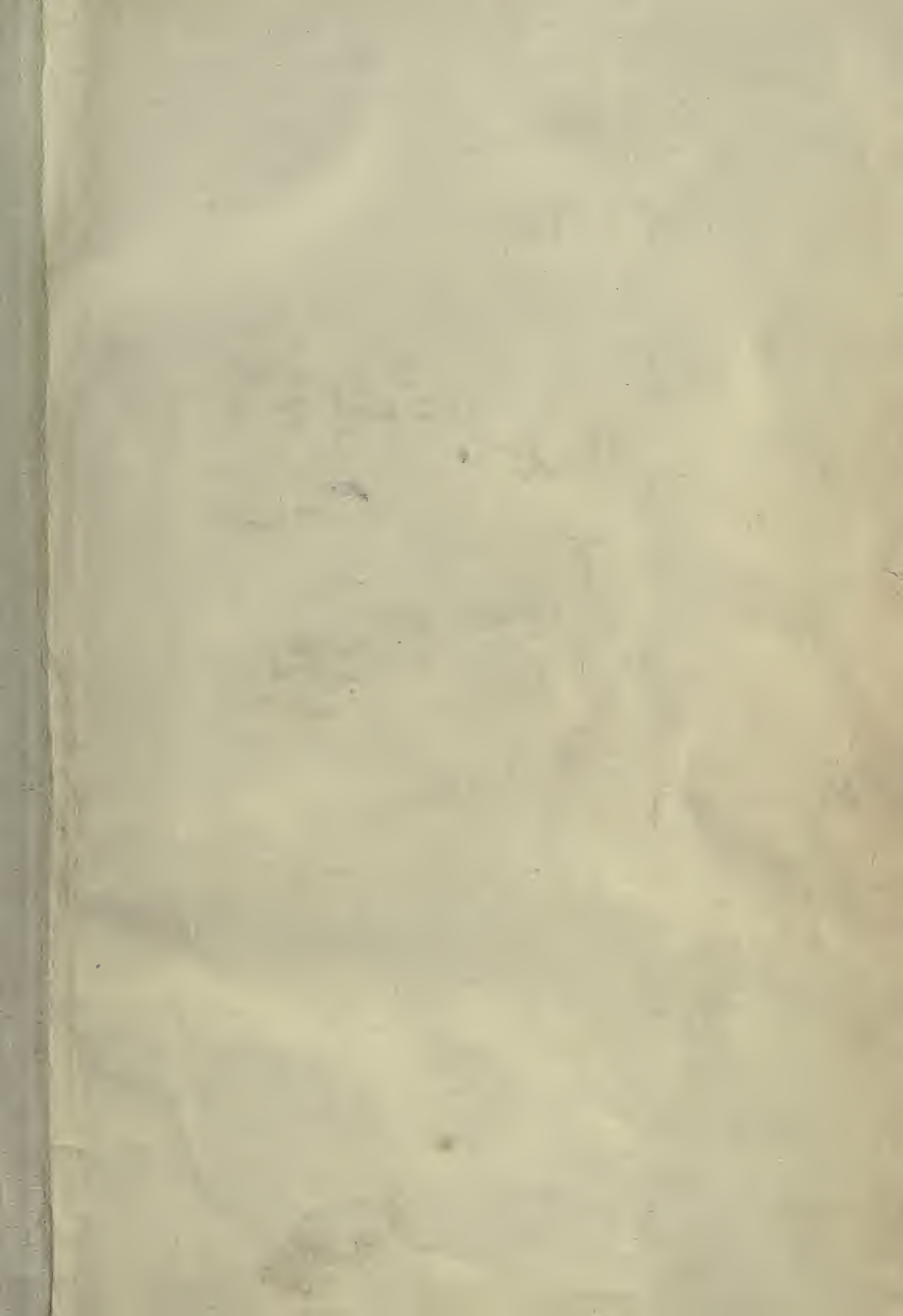

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# A STUDY OF LOCKE'S THEORY OF KNOWLEDGE

1. STANDPOINT OF THIS STUDY.—The writer holds that reality is a systematic whole, that the mind, the body, and the external world are organic to one another. To insulate consciousness, to divide the universe into a realm of knowledge and a realm of external reality, he regards as an untenable position. In the words of Green, "A *within* implies a *without* and we are not entitled to say anything is without or outside consciousness; for externality, being a relation which, like any other relation, exists only in the medium of consciousness, (only between certain objects as they are for consciousness,) cannot be a relation between consciousness and anything else."*

In so far as it denies irresoluble dualism, this standpoint is one with so-called objective idealism, but it might just as well be called realism. It unqualifiedly denies that that which is present in the experience is therefore "in the mind," or that to be means to be perceived. Sensations, if we can speak of such analyzed elements, are external objects and not "ideas." On the other hand, it holds that the finite knower is part of the universe and not a passive or detached spectator. It affirms with Bosanquet that truth is the whole, that the worlds of finite centers of experience are true in so far as they correspond with the coherent whole of which they are parts. It is obvious therefore why Locke's theory of knowledge, embracing as it does the doctrine of ideas and of two worlds, may be regarded as a typical antithesis to this standpoint.

2. METHOD.—Locke's theory of knowledge, however, will not be used as a mere foil for a rival theory, as is the case with the criticisms of Liebnitz and Cousin. In the spirt of Socrates, the writer will attempt to meet Locke on his own ground and criticize his theory of knowledge with reference to his own statements and the common facts of experience as accessible to him as to us. The method of immanent criticism here adopted will doubtless lay this study open to the danger of loose organization. Unity, it is hoped, will be achieved by constant reference to the standpoint of this study.

*(Prolegomena to Ethics, p. 73.)

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3. SCOPE.—The chief concern of this study is Locke's theory of knowledge; but to treat the thought-world as distinct from reality, epistemology as distinct from metaphysics, would be to deny the validity of the standpoint of organic realism; therefore, a consideration of Locke's metaphysical doctrines is essential.

4. LOCKE'S KNOWLEDGE OF PHILOSOPHY AND SCIENCE.—Before taking up his philosophic method it is of interest to note that Locke had a wide acquaintance with philosophic and scientific literature. In regard to the former it is said that before he ventured to publish anything he wrote, "he had acquainted himself with nearly every book of importance that had been offered to the world for its enlightenment or mystification on those subjects * *."† Special mention is made of Bacon, Hobbes, Gassendi, and Descartes. Being a doctor of medicine himself and a member of the Royal Society, he doubtless had a full and accurate knowledge of current scientific opinions, especially of human anatomy and physiology. He had a large number of friends among scientific men. Of this number Boyle, Sydenham, and Newton are of chief interest. The uncritical ease with which he adopted scientific opinions is attested by Brewer who is quoted as saying, "The celebrated Locke, who was incapable of understanding the 'Principia' from his want of geometrical knowledge, inquired of Huyghens if all the mathematical propositions in that work were true. When he was assured that he might depend upon their certainty, he took them for granted, and carefully examined the reasonings and corollaries deduced from them. In this manner he acquired a knowledge of the physical truths in the 'Principia,' and became a firm believer in the discoveries it contained. In the same manner he studied the treatise on 'Optic,' and made himself master of every part of it which was not mathematical."*

5. LOCKE'S PROBLEM.—Within this vast range of knowledge, as will appear to the reader of the *Essay*, Locke fastens upon certain doctrines here and there, each without reference to the others,

†(H. B. Fox Bourne, Life of John Locke, Vol. I. p. 72.)
*(Ibid. p. 216.)

and holds to them with childlike tenacity. In his philosophic work he seeks to harmonize but never to discredit these doctrines. The ones of most importance here are the following: the doctrine of ideas, the duality of the universe, the mediating function of the nervous system, and the existence of an external, unperceived realm of atoms in motion. Locke's problem is to give an account of knowledge, its nature, origin, extent, and validity, on the basis of these doctrines.

6. LOCKE'S EMPIRICISM.—On account of his psychological or introspective method of dealing with the problem of knowledge, Locke is usually classed as an empiricist. There is justification for so classifying him. He holds that experience is the source of all our ideas. "Whence has it [the mind] all the materials of reason and knowledge?" he asks. "To this I answer, in one word, from experience; and in that all our knowledge is founded, and from that it ultimately derives itself.* He insists that observation and experience rather than hypothesis or assumed principle are the true sources of knowledge.† "The simple ideas we receive from sensation and reflection are the boundaries of our thoughts; beyond which the mind, whatever efforts it would make, is not able to advance one jot; nor can it make any discoveries when it would pry into the nature and hidden causes of those ideas."‡

He leads us to suppose that the mind is a passive receptacle for ideas, a white paper on which things become written, a wax tablet on which characters are impressed, a dark cabinet into which ideas come. Knowledge is a fermentation of the raw material thus supplied. Truths are produced by a kind of "logical chemistry." This interpretation is further illustrated by his emphatic denial of innate ideas. There are no "innate principles," "primary notions," innate impressions," "original notions or principles," "truths," "maxims," or "propositions."§ The principle of contradiction is not innate, ** nor is identity.††

*II. i. 2.
†II. i. 2, 10, 21,; I. iv. 25.
‡II. xxiii. 29
§I. ii, 1, 13, 17.
**I. iv. 3.
††I. iv. 4.

7. LOCKE'S RATIONALISM. On the other hand Locke is quite as rationalistic as Descartes or Democratus. He believes that all things may be ultimately understood. Reality lies behind experience and true knowledge can be attained only by thought. "For since the things the mind contemplates," he says, "are none of them, besides itself, present to the understanding, it is necessary that something else, as a sign or representation of the thing it considers, should be present to it: and these are ideas."* He admits many ideas which can be ascribed neither to sensation nor reflection, e. g. God, substance, relation. He admits all that a temperate advocate of innate ideas could demand. There are certain "principles of common reason,"† or "common sense."‡ By a certain inherent principle of repugnancy the mind "can not but be satisfied that there doth something at that time really exist without us."§ The "ready assent of the mind to some truths"** depends upon a "faculty of the mind" by which a truth is recognized by its "native evidence."†† This is "intuitive knowledge."‡‡ The ideas of relation the mind adds to the simple ideas§§ they are "creatures of the understanding." The perception of identity or diversity is "the first act of the mind, when it has any sentiments or ideas at all."*** Likewise the idea of substance comes neither from sensation nor reflection.††† The clearest and most certain knowledge that human frailty is capable of is intuitive knowledge. It is irresistible as the "bright sunshine."‡‡‡ All our knowledge, of whatever sort, depends upon this for its certainty and evidence. "That there is a God, and what that God is, nothing can discover to us, nor judge in us, but natural reason. For whatever discovery we receive any other way must come originally from inspiration, which is an opinion or persuasion in the mind whereof a man knows not the rise nor reason, but is received there as a truth coming from an unknown and therefore a supernatural cause, and not founded upon those principles or observations in the way of reasoning which make the understanding admit other things for truths."*

*IV. xxi. 4.
†I. iv. 10.
‡I. iii. 4.
§IV. xi. 9.
**I. ii. 11.
††IV. vii. 10.
‡‡IV. ii. 1.
§§III. iii. 11.
***IV. i. 4.
†††II. xxiii. 4.
‡‡‡IV. ii. 1.
*(Letter to Lord King, Fox Bourne's Life of John Locke, Vol. I. p. 162,

It is thus evident that Locke has two methods of investigation. This ambiguity of method together with the inconsistent but inviolable doctrines mentioned above preclude the possibility of a consistent system of philosophy. It is no wonder that Victor Cousin exclaims, "Nothing is so inconsistent as Locke."†

8. IDEAS AS CONTENT. Before we can proceed with an investigation of Locke's theory of knowledge it is necessary to determine what he means by *ideas, mind,* and *external body.*

In the first place idea stands for "whatever is the object of the understanding when a man thinks."‡ "Every one is conscious of them in himself, and men's words and actions will satisfy him that they are in others." Ideas "are nothing but the immediate objects of our minds in thinking."§ "Every man is conscious to himself that he thinks, and that which his mind is applied about whilst thinking, being the ideas that are there, it is past doubt, that men have in their minds several ideas such as those experienced by the words whiteness, hardness, thinking, motion, man, elephant, army, drunkenness, and others."** The important point here is that ideas are in the mind.

It must be assumed that Locke applies the term *thinking* to whatever goes on in the mind, and means sense perception as well as imagination or reasoning. What common sense regards as objects in the external world, trees, elephants, houses, are really in the mind. These objects, whether it be thinking itself or man, are ideas that are *there.* That is, whatever is the object for an observing or thinking mind, is content. Ideas, then, are mental content. Although ideas are *in* the mind, yet they are not part *of* the mind. They appear to be foreign material over against which the mind stands as an observer. The nature of this content, in the perception of external objects, is, it is to be inferred from

†(History of Modern Phil., Vol. II. p. 253. N. Y. 1893.)
‡I. i. 8.
§(Second Letter to the Bishop of Worcester.) **II. i. 1.

Locke's use of the terms "phantasm" and "species," imaginal. What is *in* the mind is, not the real object, but an efflux or species. We know external objects by means of these representations. When the idea is of thinking, believing, or knowing, the idea is still of the nature of an image, or representation, i. e., of the mind's own activity. In either case there is something *there* that stands for or is the mark or sign of the real thing or activity. Ideas are *all* that the mind is aware of directly. They are its only immediate objects. They are the boundaries of our own thoughts beyond which the mind is not able to advance one jot.*

There are no unconscious ideas. An idea to be an idea must be taken notice of; it must be before the mind. There are no ideas that are not content. In the case of ideas, to be is to be perceived. When ideas are said, figuratively, to be laid up in the repository of the memory, that signifies merely that the mind has the power to have again ideas it once had. Ideas in the memory are "actually nowhere."† Impressions from the outside world may get as far as the brain, the "presence room" of the mind, but *they* are not ideas. "That which uses to produce the idea, though conveyed in by the usual organ not being taken notice of in the understanding and so imprinting no idea in the mind, there follows no sensation. So that wherever there is sense or perception, there some idea is actually produced and present in the understanding."‡ Ideas, thus, appear to be entities of some sort that are present in the mind as its objects, but exist nowhere else. From his metaphor of the dark cabinet, we infer that ideas are entities, *sui generis*, contained in the mind as in a receptacle. They are not external real things, for they exist nowhere else but in the mind. Neither are they parts of the mind or any modification of it. They are neither fish, flesh, nor fowl, neither mind nor matter, but a *tertium quid*, unique and unanalyzable.

*II. xxiii. 29.
†II. x. 2.
‡II. ix. 4.

9. IDEAS AS MODIFICATION. That ideas are content appears to be the obvious conclusion. But when we consider the mind, as Locke describes it, a passive substance, like a wax tablet or a white paper on which ideas are impressed, it does seem as if he intended us to regard ideas as modifications of the mind. Just as the seal imprints a figure in the wax so we consider that the external object, through the agency of the sense organs and the brain, imprints a more or less faithful picture or image of itself on the mind. And just as the figure in the wax is a certain conformation or modification of the wax so the idea is a certain conformation or modification of the mind. This interpretation of Locke finds further justification in the fact that he does not deny the possibility that the mind is a material and hence impressible substance.

Brown holds, as against Reid, that Locke's "ideas" are not fictitious or hybrid entities which mediate between the mind and external objects, but are actually, according to Locke, himself, modifications of the mind. He quotes Locke as saying, "Our senses, conversant about particular sensible objects, do convey several distinct perceptions of things, according to those various ways wherein those objects do affect them.* Now perception, it is admitted, is an act of the mind. Here we find Locke using, "perception" as an equivalent to "idea." Locke must mean, therefore, that the idea *is* the perception, and consequently a modification or determination of mind. When Locke speaks of "perceptions" being conveyed in, the figurative language does not confuse us. But he speaks of "ideas" in the same way, so why is not that figurative also? All this talk about ideas as separate entities conveyed into the dark cabinet of the mind through the sense "inlets," is just so much metaphor. The "ideas" of Locke, thinks Brown, are not substantially separate and distinct things in the mind, but are acts or modifications of the mind. To use Brown's exact words, "I can not but think these, and the similar passages that occur in the Essay, ought of themselves, to have convinced Dr.

*(Brown's Lectures, Vol. I. Lecture XXVI.)

Reid, that he who spoke of Perceptions, conveyed into the mind, and of avenues provided for the reception of Sensations, might also, when he spoke of the conveyance of ideas, have meant nothing more than the simple external origin of these notions, or conceptions, or feelings, or affections of the mind, to which he gave the name ideas; especially when there is not a single argumnt in his Essay, or in any of his works, that is founded on the substan tial reality of our ideas, as separate and distinct things in the mind."*

Among the various opinions Locke expresses about "ideas," "one, however," says Hamilton, "he has formally rejected, and that is the very opinion attributed to him by Dr. Brown,—that the idea, or object of consciousness in perception, is only a modification of the mind itself." This formal rejection is to be found in Locke's *Examination of P. Malebranche's Opinion.* I quote directly from Locke. "I see the purple color of the violet; this, says he, is a sentiment: I desire to know what sentiment is; that, says he, is a *modification of the soul.* I take the word, and desire to see what I can conceive by it concerning my soul; and here, I confess, I can conceive nothing more, but that I have the idea of purple in my mind, which I had not before, without being able to apprehend anything the mind does or suffers in this, besides barely having the idea of purple; and so the good word *modification* signifies nothing to me more than I knew before: e. g., that I have now the idea of purple in it, which I had not some minutes since."† Hamilton now quotes: "But to examine their doctrine of modification a little further. Different sentiments are different modifications of the mind. The mind or soul that perceives is one immaterial indivisible substance. Now I see the white and black on this paper, I hear one singing in the next room, I feel the warmth of the fire I sit by, and I taste the apple I am eating, and all this at the same time. Now, I ask, take *modification* for what you please, can the same unextended indivisible substance have different, nay, inconsistent and opposite (as these of white and black must be) modifications at the same time? Or must we suppose

*(Lecture XXVI.)
†(Exam. of P. M.s Opin. 39.)

distinct parts in an indivisible substance, one for black, another for white, and another for red ideas, and so of the rest of those infinite sensations which we have in sorts and degrees; all which we can distinctly perceive, and so are distinct ideas, some whereof are opposite, as heat and cold, which man may feel at the same time? I was ignorant before how sensation was performed in us; this they call an explanation of it. Must I say now I understand it better? If this is to cure one's ignorance, it is a very slight disease, and the charm of two or three insignificant words will at any time remove it, *probatum est*."*

It seems unavoidable to assume that Locke held, in one place or another, both these views in regard to the nature of ideas. Where he is most empirical, where he describes experience as he finds it, ideas are for him entities, *sui generis*, neither parts nor modifications of the mind, which are what they appear *as*. But where he is concerned with developing a theory of perception on the assumption of an external world of material particles in motion, he seems to regard the mind as an active-passive substance within this world, which is bombarded by these material particles, and which in turn reacts upon them. The scars of the conflict are ideas, impressions made by these material things upon the cognitive substance itself. There seems to be no use in twisting what he says to make it conform to a system. Locke seems to have accepted two points of view which he was never able to harmonize, and neither of which he was able to discard.

10. IDEAS AS OBJECTS. Locke states so emphatically that the immediate objects before the mind are ideas, beyond which we are not able to advance one jot, that we are apt to conclude that ideas are always and everywhere these immediate self-contained objects. "Whatever the mind perceives in itself," he says, "or is the immediate object of perception, thought, or understanding, that I call idea."† Whether we regard idea as content or modification of the mind, the term seems to be exhausted by the immediate object. The object is the idea, we say, and there is no idea that is not an immediate object. Ideas make up the whole of what

*(Ibid. 39.)
†II. viii. 8.

is presented and there is no idea that is not a part or whole of what is presented. That is, ideas (or objects) are what they appear *as*, as given matters of fact. Psychology, from this point of view, is purely descriptive. It aims to state in an exact way how these natural occurrences take place. We have consequently the theory of association of ideas, by which we trace certain sequences or combinations of ideas. Consistently with this view Locke says, "some of our ideas have a natural correspondence and connexion one with another: it is the office and excellency of our reason to trace these, and hold them together in that union and correspondence which is founded in their peculiar beings. Besides this, there is another connexion of ideas wholly owing to chance or custom, ideas that in themselves are not all of kin, come to be so united in some men's minds, that it is very hard to separate them; they always keep in company, and the one no sooner at any time comes into the understanding, but its associate appears with it; and if they are more than two, which are thus united, the whole gang, always inseparable, show themselves together."*

As far as psychology of this type depends upon internal observation, it is descriptive. But it can seek an explanation of these observed sequences and "gangs" of ideas, in the neural processes of the brain or of the whole nervous system. Locke does this. "Custom," he says, "settles habits of thinking in the understanding, as well as of determining in the will, and of motions of the body; all which seem to be but trains of motion in the animal spirits, which, once set agoing, continue in the same steps they have been used to, which, by often treading, are worn into a smooth path, and the motion in it becomes easy, and, as it were, natural."† Now, ideas of sense, red, yellow, blue, tones, noises, tastes, and smells, are caused, according to Locke, by the impressions of certain objects upon appropriate sense organs, which impressions set up a corresponding agitation in the animal spirits, which is conducted along the nerve conduits to the brain, where

*II. xxxiii. 5.
†II. xxxiii. 6.

it causes the idea to appear to the mind. "And if these organs," he says, "or the nerves, which are conduits to convey them from without to their audience in the brain, the mind's presence room (as I may so call it), are any of them disordered, as not to perform their functions, they have no postern to be admitted by; no other way to bring themselves into view, and be perceived by the understanding."* "As the bodies that surround us do diversely affect our organs, the mind is forced to receive the impressions, and can not avoid the perception of those ideas that are annexed to them."†

Locke is thus preparing the way for a complete explanation for the appearance and combination of ideas according to neural processes in the brain excited by outside objects, and continued or repeated according to chance or habit. Then, appearance of every idea is due to a neural process. Ideas are associated together in various ways due to the paths formed in the brain. Ideas as they appear to the observing mind are so many independent objects. All we can say is that they appear thus and thus in series or clusters. But below the surface of observation, in the brain, there we find the machinery for all these wonderful combinations. We can thus see why ideas are objects and only objects. They can not be more, from the side of the observing mind, than just what they appear as. It would be only a step, and that a logical one, to say that ideas are brain processes, that conscious processes are neural processes of a peculiar quality. Just as islands are the tops of mountains, so neural processes when they reach a certain level of intensity or complexity, stick their heads up into the field of consciousness, as it were. The real active agent in thinking would then be the brain. The mind as a separate active cognitive agent would be dropped. This is the precipice towards which his theory is leading him.

11. IDEAS AS MEANING. Ideas are, therefore, according to this view of Locke, just mental content, i. e., objects. But, as Locke points out, men make mistakes in their thinking. Objects before the mind are thought to have a significance, which, in truth, they

*II. iii. 1.
†II. i. 25.

do not have. Most of the disputes and manglings come from confused or undetermined ideas.* In the case of sense perception, when a man's idea of a leopard is confused or inadequate, when his idea of a leopard consists merely of a beast with spots, he is apt to call every spotted beast a leopard.† He does this because his idea of the leopard is not clear and distinct. But if ideas are just objects before the mind, how can they be confused or inadequate? If all spotted beasts look alike to me, as far as I am concerned, they are leopards. If a yellow rose and a pink rose appear to have no difference of color in a dim light, there is no difference, for ideas are what they appear *as.*

Here is a real difficulty and Locke meets it‡. The confusion comes in through the use of names, he says. There are various names for various objects and each name is supposed to have a determinate significance. The name *leopard* means a feline mammal with spots in broken rings or rosettes. The name *jaguar* means a feline mammal with spots in rosettes but with an additional spot in the center of the rosette. If one means by leopard merely a spotted beast, the meaning or significance he attaches to the name is inadequate, and he is apt to call every spotted beast a leopard. But if he does attach determinate meanings both to leopard and jaguar, when he sees a spotted animal with certain characteristics among which is the central spot within the rosette, he applies the name *jaguar* to it, or if it is without this central spot, he applies the name *leopard.* The meaning of the different words is thus clear and adequate because he can apply the name correctly. But a man who can thus distinguish between meanings, may fall into error and apply the wrong name to the spotted animal before him, if that animal is seen, say, in the twilight or through a tangle of undergrowth. The immediate object, in this case, is what it is, that is clear. The confusion lies in that it is possible to apply two names with different determinate meanings to the present object. The office of a name appears, therefore, to be that of a carrier of meaning. It is a means or instrument by

*(Epistle to the Reader.)
†II. xxix. 7.
‡II. xxix. 6.

which we apply meaning or significance to the immediate object before the mind. When I say, "This is a leopard," I am placing the present object in that system which I call my knowledge of the animal world, i. e., the present object means something. When Locke speaks of clear and obscure, distinct and confused, adequate and inadequate ideas, he is talking about meaning or significance, and not about the immediate objects before the mind.

12. IDEAS AND SENSATIONS. We saw, while discussing ideas as modifications of mind, how Locke uses perception and sensation as equivalent to idea. This use of these terms is hard to justify. There is an idea of perception, of course, but perception is not an idea. This loose way of using perception and sensation can lead only to confusion, and whenever they are found with articles *the* or *a*, they should be translated into the exact terms signified. "Thus the perception," he says, "which actually accompanies, and is annexed to any impression on the body, made by an external object, being distinct from all other modifications of thinking, furnishes the mind with a distinct idea, which we call sensation; which is, as it were, the actual entrance of any idea into the understanding by the senses."* This probably means that when the mind has an idea which is caused by or annexed to an impression on the body made by an external object, the mind has the power to observe this having-an-idea-so-caused as a distinct object or idea. Having-an-idea-so-caused is perception, so if we call it sensation, sensation is a part of perception. Neither one is an object at first, both can be objects when the mind reflects upon its own processes. We can not say we have a sensation in the sense that we have an object or idea. All we can say is that we have the idea of perception or sensation. The only valid use of the term "sensation" is that it is that part of perception which refers to the mind's having ideas caused by or annexed to impressions on the body by an external object. Sensation or perception is the power or quality of the mind by virtue of which the mind has ideas. Sensation or perception is to be considered in the light of some-

*II. xix. 1.

thing the mind does or of something that happens to it. It is a process, not an object. Locke himself says, "the perception of ideas being (as I conceive) to the soul, what motion is to the body, not its essence, but one of its operations.** If the mind is intently occupied it takes no notice of impressions coming through the sense inlets. "Want of sensation, in this case," he says, "is not through any defect of the organ," etc. "And so imprinting no idea in the mind, there follows no sensation."† Here, he probably means that "sense" or "sensation," which he equates with "perception," is the-having-an-idea, the experiencing, not the object experienced. Since we have ideas of another class or from another source, sensation is *one* class of ideas, referred to the sense "inlets" and their source or cause. "This great source of most of the ideas we have, depending wholly upon our senses, and derived by them to the understanding, I call Sensation."‡

But Locke has at least two other meanings for sensations. In the first place, they are the same thing as ideas. Speaking of secondary qualities, he says they are nothing but the powers "in things to excite certain sensations or ideas in us."§ "Those ideas of whiteness and coldness, pain, etc., being in us the effects of powers in things without us, ordained by our Maker, to produce in us such sensations, they are real ideas in us, whereby we distinguish the qualities that are really in things themselves."** In showing the radical difference between knowledge about and acquaintance with, between the idea of the cause of light and the idea of light itself, sensation appears to be merely content, i. e., idea. He says, "For the cause of any sensation, and the sensation itself, in all the simple ideas of one sense, are two ideas; and two ideas so different and distant from one another, that no two can be more so."††

In the next place sensation means some impression or motion in the body, some disturbance in the sense organ or nervous system or perhaps an agitation of the animal spirits. At any rate, the sensation is not in the mind but in the body. It appears to be

**II. i. 10.
†II. ix. 4.
‡II. i. 3.
**II. xxx. 2.
§II. xxxi. 2.
††III. iv. 10.

the bodily correlate of the idea. "If it shall be demanded, then, when a man begins to have any ideas? I think the true answer is, when he first has any sensation. For since there appear not to be any ideas in the mind, before the senses have conveyed any in, I conceive that ideas in the understanding are coeval with the sensation; which is such an impression or motion, made in some part of the body, as produces some perception in the understanding."* In speaking of the same water feeling hot to one hand and cold to the other he says, "for if we imagine warmth, as it is in our hands, to be nothing but a certain sort and degree of motion in the minute particles of our nerves or animal spirits, we may understand how it is possible that the same water may, at the same time, produce the sensations of heat in one hand and cold in the other."† The sensation, we see, is in the hand, not in the mind, and that the heat sensation consists of motion in the minute particles of the nerves or animal spirits, and the cold sensation a less active motion.

13. SIMPLE IDEAS AS GIVEN. I look at a tree. It is an object before the mind, a complex of colors, etc., and my mind may be said to be occupied about it. In this experience I can distinguish two separate provinces or fields of this occupation, viz., external sense and internal sense.‡ These two kinds of occupation or thinking are called by Locke, respectively, ideas from sensation and ideas from reflection. Ideas of the one sort are just external things of the common-sense physical world which are objects before the mind; and ideas of the other sort are those objects which the mind has when it reflects or observes its own processes or occupation when it has ideas.

Among ideas from sensation, or ideas from reflection, there may be distinguished, thinks Locke, two kinds of ideas, viz., simple ideas and complex ideas. When my mind is said to be occupied about a tree, there are certain unchanging elementary objects in my mind, certain atomic unanalyzable sensations, as greenness,

*II. i. 23.
†II. viii. 21.
‡II. i. 4.

grayness, roughness, smoothness, sheer odors and sounds. These are simple ideas. There are other objects, which are groups or combinations of these "sensa," of varying degrees of complexity and relationship, such as bark, leaves, rustling of leaves, "woodsy" odor, or even the tree itself. These are complex ideas. Among ideas from reflection there is the same distinction between simple and complex ideas. Suppose I am sitting under a tree and an apple falls to the ground. I pick up the apple, estimate its weight, look up into the tree and calculate its final velocity, and at last formulate a law of motion. When I tell my neighbor about this experience, I illustrate simple and complex ideas from reflection. In the first place my mind was occupied about the apple, i. e., I perceived the apple. But as Locke says, "it being impossible for any one to perceive, without perceiving that he does perceive,* I get the simple object perceiving-that-I-perceive, which is the first simple idea from reflection. If in my occupation about the apple, I doubt or believe, my reflection upon these furnishes me with two other simple ideas from reflection. In these cases, the mind's operation about its object is observed by the mind itself as an operation. A complex idea from reflection is the result of a combination, separation, or comparison of these simple objects of thinking. Thus, in telling my neighbor my experience, recounting my difficulties, hopes, fears, and at last my solution, that experience, regarded as a whole, is clearly a complex of the simple ideas from reflection.

Apparently simple ideas are as obvious to Locke as the grains in a heap of sand or the beads of a rosary. They enter by the senses, simple and unmixed. The coldness of ice, the whiteness of a lily, the taste of sugar, or the smell of a rose, are clear and distinct, i. e., pure and unanalyzable.† They are the simplest forms we apprehend in perception. They are as obvious "to children, idiots, and a great part of mankind," and to philosophers, as the stars and the sun.

14. As the Result of Analysis. What are some of these simple ideas, say, from external sense? Locke says they are

*II. xxvii. 9.
†II. ii. 1.

whiteness, sweetness, coldness, hardness, etc. Now, how are we going to point out to a child whiteness, for example, simple and unmixed? Who, even among philosophers, ever saw just whiteness? Simple ideas of this sort are not a part of our experience. There are no instances of such simple ideas. What we show the child is white milk, or white sugar. *Whiteness* is the product of analysis, not of direct apprehension. "It is true," he is compelled to say, "solidity can not exist without extension, neither can scarlet colour exist without extension; but this hinders not but they are distinct ideas. Many ideas require others as necessary to their existence or conception, which yet are very distinct ideas."* To see white as such, without the mixture or association of any other idea, one would have to experience it without size or shape.

Simple ideas from reflection are still more difficult to substantiate. Experience gives us no pure perception, or believing, or thinking but all these are operations of one mind impossible of being immediately apprehended as separate and simple. These simple ideas are what the mind finds when it reflects upon and generalizes its own processes. Obviously simple ideas are found only by analysis.

In summing up "the steps by which the mind attains several truths" he says, "the senses at first let in particular ideas, and furnish the yet empty cabinet; and the mind by degrees growing familiar with some of them, they are lodged in the memory, and names got to them: afterward the mind, proceeding farther, abstracts them, and by degrees learns the use of general names."† Again he says, "ideas become general, by separating from them the circumstances of time, and place, and any other ideas that may determine them to this or to that particular existence."‡ As a matter of fact, the examples of simple ideas that Locke gives, are just the general ideas or abstractions, which he here declares come before the mind as distinct objects only after a series of preliminary steps. Whiteness is a general idea which has to be abstracted from a number of instances of white things. There is

*II. viii. 11.
†I. ii. 15.
‡III. iii. 6.

thus no evidence that the elements into which we may analyze sensational data are at any time in the mind as pure unmixed elements.

15. IDEAS ACCORDING TO LOCKE, MAY THEREFORE SIGNIFY:

1. Immediate objects of the mind as content.
2. Immediate objects of the mind as modifications of itself.
3. The meaning of these immediate objects.
4. These objects regarded as immediately apprehended.
5. These objects regarded as the result of analysis or abstraction.

16. SUBSTANCE. When Locke is most empirical, the idea of substance appears to be little more than a fancy, the supposition of an unknowable substratum; but when he is most rationalistic, he makes much of it. There are three kinds of substance and it has various qualities which he enumerates. His empirical account may be outlined as follows: The idea of substance arises from the fact that the mind observes "that a certain number of these simple ideas go constantly together; which being presumed to belong to one thing, and words being suited to common apprehensions, and made use of for quick dispatch are called, so united in one subject, by one name; which by inadvertency, we are apt afterward to talk of and consider as one simple idea, which is indeed a complication of many ideas toether: because, as I have said, not imagining how these simple ideas can subsist by themselves, we accustom ourselves to suppose some *substratum* wherein they do subsist, and from which they do result, and which, therefore, we call substance."* The substance, then, of any constant group of ideas, for example iron, is just the name of this group, considered as a group, applied to it for the sake of convenience; just as it is a matter of economy to speak of the Smiths or Browns instead of naming each member of the family. The substance of iron is merely a short-hand expression for a group of ideas that go constantly together. Common sense, of course, speaks inadvertently of iron or wood as if that meant something more. But when questioned it must answer, "I know not what."

*II. xxiii. 1.

There is really no idea of substance, but only a supposition, a trick of language, due to the practical needs of speech. The affirmation of a substance or substratum is only a verbal proposition. It amounts to the proposition "$x$ exists," where $x$ means merely a certain constant group of ideas. The only demand for such a substratum is that any $x$ about which we affirm or deny anything must exist. When this $x$ is critically examined the demand vanishes. The inconsistency in the idea of substance Locke does not hesitate to point out. "If any one should be asked, what is the subject wherein color or weight inheres? he would have nothing to say, but the solid extended parts: and if he were demanded, what is it that solidity and extension inhere in? he would not be in a much better case than the Indian before mentioned, who, saying the world was supported by a great elephant, was asked what the elephant rested on? to which his answer was a great tortoise. But being again pressed to know what gave support to the broad-backed tortoise replied, something he knew not what. And thus here, as in all cases where we use words without having clear and distinct ideas, we talk like children; who being questioned what such a thing is which they know not, readily give this satisfactory answer, that it is *something;* which, in truth, signifies no more, when so used, either by children or men, but that they know not what; and that the thing they pretend to know and talk of, is what they have no distinct idea of at all, and so are perfectly ignorant of it, and in the dark."** The demand for a substratum, Locke thus shows, is childish and contradictory.†

Those who pretend to get more out of substance than simple ideas are taking words for things.‡ They feign knowledge where they have none, "by making a noise with sounds, without clear and distinct significations." "They who first ran into the notion of accidents as a sort of real beings that needed something to inhere in, were forced to find out the word substance to support them.* * * * And he that inquired might have taken it for as good an answer from the Indian philosopher, that substance, without knowing what it is, is that which supports the earth, as we take

**II. xxiii. 2.
†II. xxiii. 37.
‡II. xiii. 18.

it for a sufficient answer, and good doctrine, from our European philosophers, that substance, without knowing what it is, is that which supports accidents. So that of substance we have no idea of what it is, but only a confused obscure one of what it does."* Substance is thus a word, not an idea. It is a name for something that occurs among ideas. It devolves upon those that use the word, thinks Locke, to show of what use it is in deciding questions of philosophy.† For Locke, the term explains nothing, but is a mockery. It is as if one should say all learned books consist of paper and letters, and that letters are things inhering in paper, and paper a thing that holds forth letters—"a notable way of having clear ideas of letters and paper!" On the other hand, when this problem of substance is brought squarely before him by Stillingfleet, Locke gives up his empiricism. Notwithstanding that he affirms over and over again that we can know nothing beyond our simple ideas, and that our ideas of substances are confused, childish, and born of ignorance, yet, almost in the same paragraph he asserts that "sensation convinces us that there are solid extended substances, and reflection, that there are thinking ones; experience assures us of the existence of such beings, and that the one hath a power to move body by impulse, the other by thought; this we can not doubt of. Experience, I say, every moment furnishes us with the clear ideas both of the one and the other." And notwithstanding that the demand for an outside cause of what is present in experience leads to the indefinite regress of the elephant and tortoise, and that such an explanation not only is obscure and confused but is a mockery, yet he affirms that God, that being who possesses infinite power, wisdom, excellence, and all the virtues known to man raised to the *nth* power, exists as the upholder and ruler of the universe because what is present in experience must have an adequate cause. Far from being obscure, the existence and attributes of God partake of the clearness and certainty of mathematical demonstration.‡ Stillingfleet justly inferred from Locke's account that substance is

*II. xiii. 19.
†II. xiii. 20.
‡IV. x. 1-7.

not grounded upon true reason. Accidents and modes must, therefore, subsist of themselves. Simple ideas need no tortoise to support them, and could get along very well by themselves but for some fancies men have accustomed themselves to. In reply, Locke says that ideas of substances are made by abstraction,* although he admits that what he says in Chapter XXIII, might lead one to suppose that he held they were not. What he is really talking about here is, not the *being* of substance, but the *idea* of substance. "I cannot be supposed to question or doubt the being of substance." "So that, I think, the being of substance is not shaken by what I have said; and if the idea of it should be, yet, (the being of things depending not on our ideas) the being of substance would not be all shaken by my saying, we had but an obscure imperfect idea of it, and that that idea came from our accustoming ourselves to suppose some substratum: or indeed, if I should say so, we had no idea of substance at all. For a great many things may be, and are granted to have a being, and be in nature, of which we have no ideas. For example: It can not be doubted that there are distinct species of separate spirits, of which yet we have no distinct ideas at all."† In his chapter he throws the burden of proof on those philosophers who uphold substance; here, in his letter, he shifts the responsibility. Locke's objection to substance was not, primarily, that the idea of it is confused, but that when critically examined there is no logical demand for it; that if we entertain the idea, provisionally, we see that it leads to an indefinite regress; and that in asking for a substance as the support of ideas, we are asking for we know not what, and are fooling ourselves with a mere word. Now, he says, because our idea of substance is confused, or because we have no idea of it at all, is no proof that there is no substance. He says, in his first letter to the Bishop of Worcester, that he has everywhere affirmed and built upon the supposition that a man is a substance. The *idea* of man as an identical substance, either material or spiritual, he readily admits is otiose and childish, but

*III. iii. 6., II. ii. 9.
†(First Letter to Bishop of Worcester.)

the *being* of man as such a substance, he maintains, he has never doubted, and that nothing he has said about the imperfect and *ill-grounded idea* in the least applies to the *being* of man as a substance. The expression "idea of man as a substance" appears, from his discussion, to be one of those "uncouth, "affected," and "unintelligible" terms, one of those "vague and insignificant forms of speech, and abuse of language," from which can be expected nothing but "obscurity and confusion."* But when we talk about the *being* of man, is not that something the mind considers? Is not the mind employed about that, and as an object of thinking, is it not an idea? In short how can we consider the *being* of substance apart from the *idea* of substance? Locke would probably say that idea of substance is different from the idea of being of substance. What is the difference? The idea of man as a substance, he has shown, is confused and useless. Now, if we are to turn about and affirm and build upon the idea of man as a substance, all our careful reasoning, all our precise choice of words, and all our trouble to get clear and distinct ideas, come to naught. With this distinction between idea and being, the great master builders, Boyle, Sydenham, and Newton, could have been vanquished. Let some one say to Newton: "I have the idea of a round square." If Newton objects that his idea is ill-grounded and confused and absolutely useless in science and practical affairs, he could, after the manner of Locke, reply, "I admit that the idea is confused, ill-grounded, and useless; I will admit further, on second thought, that I have no idea of it at all, but this is nothing against its *being*. The *being* of a round square is what I affirm and build upon." The difference then between the idea of man as a substance and the idea of the being of man as a substance is, that, in discarding the one as ill-grounded and useless, I am trying to be rational, and in accepting the other I have given up being rational.

17. MIND. "We have the idea of but three sorts of substances,"

*(Epistle to the reader.)

says Locke: "1. God. 2. Finite intelligences. 3. Bodies."* Since, of course, he holds that they exist, there are consequently, three sorts of beings. But clearly this is not the most fundamental classification. In a fundamental sense God and finite intelligences are in the same class. It is better to take what he says in another place. "There are," he says, "but two sorts of beings in the world, that man knows or conceives. First, such as are purely material, without sense, perception, or thought, as the clippings of our beards, or parings of our nails. Secondly, sensible, thinking, perceiving beings, such as we find ourselves to be, which, if you please, we will hereafter call cognitive and incognitive beings; which to our present purpose, if for nothing else, are perhaps better terms than material and immaterial."† That God is in the same general class with finite beings appears from our idea of Him. From our experience we get the ideas of infinity, existence, duration, power, knowledge, pleasure, happiness, and several other qualities and powers. Among these ideas we find there are some "which it is better to have than to be without." Enlarging these to infinity, and putting them together in a complex idea, we have the idea of God.‡ God is thus an idealized man; and in a fundamental classification would have to be classed as a cognitive being.

There are then two kinds of being, cognitive and incognitive. But when Locke comes to consider the stuff of cognitive beings he is very cautious. "We have the ideas of matter and thinking," he says, "but possibly shall never be able to know, whether any mere material being thinks or no; it being impossible for us, by the contemplation of our ideas without revelation, to discover, whether omnipotency has not given to some systems of matter, fitly disposed, a power to perceive and think, or else joined and fixed to matter so disposed, a thinking immaterial substance; it being, in respect to our notions, not much more remote from our comprehension to conceive, that God can, if he pleases, superadd to matter the faculty of thinking; since we know not wherein thinking consists, nor to what sort of substances the Almighty

*II. xxxii. 2.
†IV. x. 9.
‡II. xxiii. 33.

has been pleased to give that power, which can not be in any created being, but merely by the good pleasure and bounty of the Creator."*

"I grant that I have not proved," he writes to the Bishop of Worcester, "nor, upon my principles can it be proved (your Lordship meaning, as I think you do, demonstratively proved), that there is an immaterial substance in us that thinks. Though I presume, from what I have said about this supposition of a system of matter, thinking (which there demonstrates that God is immaterial) will prove it in the highest degree probable, that the thinking substance in us, is immaterial."

The nature of the mind, or that which thinks, according to Locke, at this place, is unknown to us. It may be material or it may be immaterial, he does not know, but probably the latter. Empirically, it is "that which thinks." Taken in conjunction with what he says about substance, that it is merely a name applied to certain group of ideas, and is nothing apart from the simple ideas themselves, the mind means nothing more than the system of ideas from reflection; just a center of experience, which for convenience, we speak of as a substantial being which has experience. The substance of a horse or a stone is just the *complication* or *collection* of certain simple ideas. So, "the same happens concerning the operations of the mind, viz.: thinking, reasoning, fearing, etc., which we, concluding not to subsist of themselves, nor apprehending how they can belong to body, or be produced by it, we are apt to think these the actions of some other substance, which we call spirit: whereby it is evident, that having no other idea or notion of matter, but *something* wherein those many sensible qualities which affect our senses, do subsist; by supporting a substance, wherein *thinking*, *knowing*, *doubting*, and a power of moving, etc., do subsist, *we have as clear a notion of the substance of spirit, as we have of the body;* the one thing supposed to be (without knowing what it is) the *substratum* to those simple ideas we have from without; and the other supposed (with

*IV. iii. 6.

a like ignorance of what it is) to be the *substratum* to those operations we experience in ourselves within."* Mind may mean, therefore, nothing more than the unity of experience, a system, a center, or a law of experience.

The mind or self according to this interpretation of Locke, appears to be the empirically discovered form or system in the ideas from reflection. The mind is not an entity over against its ideas, something got by abstraction, but a recognized system or organization of these ideas, i. e., it is concrete not abstract. This interpretation is rendered more probable by Locke's discussion of the identity of self. Identity of the self does not consist, according to Locke, in an identity of soul substance, either material or immaterial. It is the consciousness that I am the same self that I was yesterday, that gives personal identity. If this consciousness is present, if the thinking remembers and owns a series of past actions, the self persists, and the actions are the actions of an identical self. "Self," he says, "is that conscious thinking thing (whatever substance made of, whether spiritual or material, simple or compound, it matters not) which is sensible, or conscious of pleasure and pain, capable of happiness or misery, and so is concerned for itself, as far as that consciousness extends. Thus every one finds, that whilst comprehended under that consciousness, the little finger is as much a part of himself, as what is most so. Upon separation of this little finger, should this consciousness go along with this little finger, and leave the rest of the body, it is evident the little finger would be the person, the same person; and self then would have nothing to do with the rest of the body. As in this case it is the consciousness that goes along with the substance, and when one part is separate from another, which makes the same person, and constitutes this inseparable self; so it is in reference to substances remote in time. That which the consciousness of this present thinking thing can join itself, makes the same person, and is one self with it, and with nothing else; and so attributes to itself, and owns all the actions

*II. xxiii. 5.

of that thing as its own, as far as that consciousness reaches, and no farther; as every one who reflects will perceive."* Ideas may not occur apart from *some* substance or support, just as a phonographic record has to have a support of some kind, something in which the record inheres. The record may be made in wax and transferred to tin-foil or vulcanite. What constitutes it the same record is not the support. The substratum of ideas may be material substance or spiritual substance, or at one time material and at another time spiritual, that is not the essential factor. What constitutes a self an identical being is the consciousness of the same. Let us assume transmigration of souls. "Let any one reflect upon himself," says Locke, "and conclude that he has in himself an immaterial spirit, which is that which thinks in him, and in the constant change of his body keeps him the same; and this is what he calls himself: let him also suppose it to be the same soul that was in Nestor or Thersites at the siege of Troy (for souls being, as far as we know anything of them, in their nature indifferent to any parcel of matter, the supposition has no apparent absurdity in it), which it may have been, as well as it is now the soul of some other man: but he now having no consciousness of any of the actions either of Nestor or Thersites, does or can he conceive himself the same person with either of them?"† Lock thinks not. "The same immaterial substance, without the same consciousness, no more making the same person by being united to any body, than the same particle of making without consciousness, united to anybody, makes the same person."

On the other hand, if the same consciousness is united now with one soul and again with another, the self will be identical. If the same consciousness "can be transferred from one thinking substance to another, it will be possible that two thinking substances may make but one person. For the same consciousness being preserved, whether in the same or different substances, the personal identity is preserved."‡

Locke goes on to found the right to reward or to punish upon

*II. xxvii. 17.
†II. xxvii. 14.
‡II. xxvii. 13.

this consciousness of personal identity. "If the consciousness went along with the little finger when it was cut off, that would be the same self which was concerned for the whole body yesterday, as making part of itself, whose actions then it can not but admit as its own now."* "If Socrates and the present Mayor of Queenborough agree, they are the same person: if the same Socrates waking and sleeping do not partake of the same consciousness, Socrates waking and sleeping is not the same person. And to punish Socrates waking for what sleeping Socrates thought, and waking Socrates was never conscious of, would be no more right, than to punish one twin for what his brother twin did whereof he knew nothing, because their outsides were so like that they could not be distinguished."† There is no doubt, therefore, that Locke means by identity, not the same substance, or continuity of change, but identity of organization. He errs, if he does err, in assuming that consciousness infallibly reveals this organization. In illustrating identity from plant life, he says, "That being then one plant which has such an organization of parts in one coherent body partaking of one common life, it continues to be the same plant as long as it partakes of the same life, though that life be communicated to new particles of matter vitally united to the living plant, in a like continued organization conformable to that sort of plants. For this organization being any one instant in any one collection of matter, is in that particular concrete, distinguished from all other, and is that individual life which is existing constantly from that moment both forwards and backwards, in the same continuity of insensibly succeeding parts united to the living body of the plant, it has that identity, which makes the same plant, and all the parts of it, parts of the same plant, during all the time that they exist united in that continued organization, which is fit to convey that common life to all the parts so united."‡ So whatever Locke may imply about the infallibility of consciousness in revealing identity, the funda-

*II. xxvii. 18.
†II. xxvii. 19. (Cf. Reid, Intel. Pwrs. Essay III. Chap. V.)
‡II. xxvii. 4.

mental thing is that the self is a "concrete," a coherent organization, and that identity must consist in identity of organization. This much is in harmony with our standpoint. But Locke goes farther in believing that a self so conceived must necessarily be conscious of itself as it is. Just as it is impossible for one to perceive without perceiving that he perceives, so it is impossible for a self to be a coherent system without being conscious of itself as a coherent system. The self, according to Locke as according to Royce, is a self-representative system.

Notwithstanding Locke affirms, in speaking of the real essence of things, that "it is evident the internal constitution, whereon their properties depend, is unknown to us, 'that' our faculties carry us on farther toward the knowledge and distinction of substances, than a collection of those sensible ideas which we observe in them; which, however, made with the greatest diligence and exactness we are capable of, yet it is more remote from the true internal constitution from which those qualities flow, than, as I said, a countryman's idea is from the inward contrivance of that famous clock at Strasburgh, whereof he only sees the outward figure and motions," and that "a blind man may as soon sort things by their colors, and he that has lost his smell as well distinguish a lily and a rose by odors, as by those internal constitutions which he knows not,"* yet he tells us, with persistent inconsistency, that we have clear and distinct ideas of the kinds of substances, and gives us a list of their powers and qualities. The mind is not only a substance, but it is a cognitive substance, and it has the qualities or powers of perception or thinking, motivity, or the power of moving, existence, duration, and number.† The mind as a substance is thus very far from being unknowable. "Notwithstanding anything I have said," he writes Stillingfleet, "the idea of a substance or substratum is grounded upon this: 'That we can not conceive how simple ideas of sensible qualities should subsist alone; and therefore we suppose them to exist in, and to be supported by some common subject; which support we denote by the

*III. vi. 9.
†II. xxi. 73.

name substance.' Which, I think, is a true reason, because it is the same your lordship grounds the supposition of a substratum on, in this very page; even on the repugnancy to our conceptions, that modes and accidents should subsist by themselves." The point to be noted here is that the idea of substance is *inferred* according to true reason. That is, I infer my existence as a substantial being because I can not conceive how my simple ideas from reflection could subsist alone unsupported.

What does "repugnancy" mean? What it should mean, and what it actually does mean in Locke's discussion of the identity of the self, is that we can not help regarding the elements of our inner experience as parts of a systematic organization. Applied to both inner and outer experience, it means that we can not but regard the universe as a systematic whole. "Repugnancy" is the logical demand for coherence. But here Locke interprets it to mean the demand for a substratum. He implies that coherence can be obtained in no other way. The mind or soul, therefore, has a substantial existence.

It is to be noted that, according to Locke, we infer these qualities or powers to belong to the mind as a substance, just as we infer the substance of mind itself, from the actual presence of the simple ideas from reflection. "It is plain," he says, "then, that the will is nothing but one power or ability, and freedom another power or ability; so that to ask, whether the will has freedom, is to ask whether one power has another power, one ability another ability? a question at first sight too grossly absurd to make a dispute, or need an answer. For who is it that sees not that powers belong only to agents, and are attributes only of substances, and not of powers themselves?"* Thus we infer that there is a soul substance because we can not conceive the simple ideas from reflection as uncaused or unsupported by a substratum or a substance. Likewise we infer that this soul substance has the various powers and attributes which are present in our experience as simple ideas from reflection; because such powers can not but

*II. xxi. 16.

be powers of an agent, and such attributes attributes of a substance. I am what the powers and attributes of my soul substance are. If I can think clearly and perceive distinctly that is because my soul substance possesses the power of thinking and the power of perceiving in a high degree of perfection. Every peculiarity of thought, every trick of expression, every idiosyncrasy of character or action, is due to an oddity or peculiarity among the powers or attributes of my soul substance. If I reason today in the same manner that I reasoned yesterday, or if I speak today with the fluency or hesitation with which I spoke yesterday, that is because the powers or attributes of my soul substance act today in the same manner they acted yesterday. What I call my personality depends wholly upon the powers and attributes of my substantial soul. If I am the same I that I was yesterday it is because my soul substance with its powers and attributes is the same. If I am not the same it is because it is not the same. Personal identity, thus, depends upon identity of soul substance. To assume the same consciousness or self to persist with a changing or with an altogether different soul substance, or *vice versa*, would be "too grossly absurd to make a dispute."

Locke clinches the substantial existence of the soul with an argument very like that of St. Augustine or Descartes. The soul is not only inferred but its existence is intuitively known. This knowledge is comparable only to the intuitive knowledge of ideas themselves. "As for our own existence, we perceive it is so plainly, and so certainly, that it neither needs nor is capable of proof. For nothing can be more evident to us than our own existence; I think, I reason, I feel pleasure and pain: can any of these be more evident to me than my own existence? If I doubt of all other things, that very doubt makes me perceive my own existence and will not suffer me to doubt that. For if I know I feel pain, it is evident I have as certain perception of my own existence, as of the existence of the pain I feel, or if I know I doubt, I have as certain perception of the existence of the thing doubting,

as of that thought which I call doubt. Experience then convinces us that we have an intuitive knowledge of our own existence, and an internal infallible perception that we are. In every act of sensation, reasoning, of thinking, we are conscious to ourselves of our own being; and, in this matter, come not short of the highest degree of certainty."* The "I" referred to here is, of course, ambiguous. It may refer to the soul, the cognitive substance, or it may refer to the empirical self, the "concrete" of ideas from reflection, the systematic unity in thinking. Upon reflection we see there is a coherent organization in our inner experience, which gives a meaning to the "myself" and "I" of conversation. Locke, it seems, referred to the former meaning. Man "knows certainly that he exists, and that he is something."† He bases his demonstration that God, as a spiritual substance, exists, upon this. Since man is something that exists, and since something can not be produced by nothing, then there must be a real being as a producer of finite beings. It is likewise evident, reasons Locke, that this being has existed from all eternity, that he is the source and origin of all power and therefore most powerful, that as the producer of knowledge he is most intelligent, and so on for the other attributes of God. Locke regards God as a spiritual substance, for he says just that.§ In the same connection he speaks of men as finite substances. So there seems to be no doubt that Locke means for the "cogito ergo sum" to apply to the soul substance. Windelband says Locke's treatment of the *cogito ergo sum* "refers only to our states and activities, not to our essence; it shows us, indeed, immediately and without doubt, *that* we are, but not *what* we are."‡ This, it appears, is not the most plausible interpretation. Locke does not mean that we have an idea of the soul in the sense of an object like a tree or a stone, but that we get an idea of *what* it is in the sense of a meaning. The soul substance is that which thinks, perceives, believes, etc. The soul *has* these powers and attributes. Clearly, he is not referring merely to the states or ideas themselves. Locke may not draw upon the *cogito ergo sum*

*IV. ix. 3.
†IV. x. 2.
§II. xxvii. 2.
‡(Hist. of Phil. Tuft's trans. p. 469.)

to prove *what* the soul's powers and attributes are, but he certainly means that that which possesses these powers and attributes which are present in my experience and which demand a substratum, is that which I intuitively know as myself. *He identifies the inferred substratum with the intuitively known subject.* His argument for God is that since finite cognitive substances with finite powers and attributes are intuitively known to exist, therefore there must be an infinite substance with infinite powers and attributes as the producer and sustainer of finite substances. We demonstratively know God to be an infinite substance as we intuitively know ourselves to be finite substances. Locke has, therefore, two distinct doctrines of the soul, one empirical, one rationalistic.

18. BODIES. Whatever Locke may say about the idea of material or incognitive substance, he never doubts its existence. Although he says the idea of it is confused yet he also says it is clear and distinct.

Incognitive substance stands to ideas from sensation in the same relation of a support or substratum as cognitive substance stands to ideas from reflection. But there is this difference: whereas we have no intuitive knowledge of cognitive substance, in the case of the soul substance we do have. Knowledge of our own existence has a higher degree of certainty than the existence of incognitive substance. But whether Locke's various utterances are consistent or not, incognitive substance, according to his reasoning, is certainly not unknowable. We not only know that it exists but we know many of its qualities. This will be evident when we discuss primary and secondary qualities of bodies. But what does Locke mean by bodies? Presumably, in distinguishing between primary and secondary qualities of bodies, and in affirming that colors, sounds, and smells are not qualities of bodies in themselves, but that certain others are, Locke is explaining the human mind to an intelligent common-sense man, who has not considered this before. We, as his readers, evidently hold to the practical common-sense view that bodies are things variously shaped and

colored, which exist outside ourselves, and are really so colored and shaped regardless of any of our own determinations. Bodies in this sense are not correlated groups of ideas, but are real external and independent entities. Now, when Locke states that the objects the mind immediately perceives, trees, stones, houses, are *its* ideas, he forever annihilates the common-sense view. Bodies then become, for the neophyte, groups of ideas. In the next place, Locke shows, by a certain logical principle—a repugnancy of the mind to rest with ideas alone—that we must assume an unperceived cause for these ideas. This cause is the thing in itself, the real body. What we at first naively took to be qualities of bodies, are now seen to be simple ideas in complex ideas. When I say the rose is red and of a certain shape and size, all I am warranted in meaning is that a certain complex idea, rose, has in it the simple ideas, redness, form, and extension. The term *qualities* is not applicable to common-sense bodies, but only to things in themselves, to critical bodies. Critical bodies have qualities, but they are much fewer in number than the simple ideas in common-sense bodies. There are no qualities in critical bodies like the simple ideas of redness, sweetness, sourness, loudness, but they do have qualities, such as extension, figure, and motion, which are like the simple ideas of extension, figure, and motion. We might be said now to have completed our novitiate. Never again can Locke presume on our philosophic innocence.

We have now defined denotatively the substantive elements of Locke's theory of knowledge and find that the terms that stand for them are ambiguous and inconsistent. Ideas may be modifications of the mind, content, or meaning. Substance may be a trick of language or a real existence. Mind may be merely the unity of organization or a cognitive soul substance. Bodies may be groups of ideas or real material substances. Thus at the very beginning we find Locke involved in a knot of equivocation. Next is the question: How does he set these elements to work?

19. Atomic Structures.—As we have seen, Locke divides substances, when he considers them as real, into cognitive and incognitive, rather than into spiritual and material, although he believes the latter is the correct division. The one is the logically necessary and intuitively known support, cause, or substratum of ideas from reflection; the other holds the same relation, aside from intuition, to ideas from sensation. The cognitive substance of finite beings is not diffused but exists as simple unitary soul-corpuscles—minds or spirits. God fills all space and is thus not even figuratively atomic. The world of finite intelligences is an atomic world, a world of cognitive corpuscles or atoms, simple and indivisible. Incognitive substance seems to be more diffused than cognitive substance, but even it, in the last analysis, probably exists in the atomic or granular form. Locke appears to regard the external physical world as a mixed, though perhaps not disordered, mass of atoms in motion. Physical phenomena are due in one way or another to the impact of these flying particles. Chemical and electrical changes seem to be entirely ignored by Locke. Locke's material world is the world of Newtonian physics. He accepts the omission theory of light. "And since the extension, figure, number, and motion of bodies, of an observable bigness, may be perceived at a distance by the sight, it is evident some singly imperceptible bodies must come from them to the eyes, and thereby convey to the brain some motion, which produces these ideas we have of them in us."* "I think the perception we have of bodies at a distance from ours may be accounted for, as far as we are capable of understanding it, by the motion of particles of matter coming from them and striking on our organs."† "In feeling and tasting there is immediate contact. Sound is not unintelligibly explained by a vibrating motion communicated to the medium, and the effluviums of the odorous bodies will, without any great difficulties, account for smells."‡ "Besides the springy particles of pure air, the atmosphere is made up of several streams or minute particles of several sorts arising from the earth and the

*II. viii. 12.
†(Exam. of P. M.'s Opin. 9.)
‡(Ibid.)

waters, and floating in the air, which is a fluid body, and though much finer and thinner, may be considered in respect to its fluidity to be like water, and so capable, like other liquors, of having heterogeneous particles floating in it."* After considering great masses of matter, the stars, planets. stones, plants, and animals, he says, "it may be now fit to consider what these sensible bodies are made of, and that is of inconceivably small bodies or atoms, out of whose various combinations bigger moleculae are made."† "By the figure, bulk, texture, and motion of these small and insensible corpuscles," he concludes, "all the phenomena of bodies may be explained." Thus we see that Locke's universe, with the exception of God, is atomic: material atoms, soul atoms, and ideas. Perception and knowledge is possible, for Locke, either on the assumption of interaction between cognitive and incognitive atoms, or on the assumption of some sort of meditation by God, as occasionalism or pre-established harmony.

20. OCCASIONALISM. Although Locke wrote a paper exposing the absurdity of seeing things in God, yet, in his *Essay* he has more than once expressed himself in a manner not inconsistent with the occasionalism of Malebranche. "Impressions made on the retina by rays of light," he says, even in his examination of Malebranche's opinion, "I think I understand; and motions from thence continued to the brain may be conceived, and that these produce ideas in our minds, I am persuaded, but in a manner to me incomprehensible. This I can resolve only into the good pleasure of God, whose ways are past finding out. And, I think, I know it as well when I am told these are ideas that the motion of animal spirits, by a law established by God, produces in me, as when I am told they are ideas I see in God. The ideas, it is certain I have, and God both ways is the original cause of having them; but the manner how I came by them, how it is I perceive, I confess I understand not; though it be plain motion has to do in the producing of them: motion so modified, is appointed to be the cause

*(Elements of Nat. Phil. ch. VI.)
† (Ibid. ch. XII.)

of our having them."† It would seem to follow from this that our ideas from sensation have co-ordinate substrata, two causes. The Cartesians emphasized the sole causality of God. Since Locke holds that we perceive only our ideas and that their cause is an I-know-not-what, it seems strange that he should introduce a realm of hypothetical material causes, which as causes he sometimes admits are inconceivable, instead of making God the sole ground of our ideas. But admitting a world of material particles in motion, Locke has a parallelism on his hands. Certain motions among particles of the brain occur, and concomitant with these motions certain ideas occur in the mind. That an idea should produce a motion in a material body, or that the motion of a material body should produce an idea in the mind, seeing they are so different, he says, is inconceivable. "We are fain to quit our reason, go beyond our ideas, and attribute it wholly to the good pleasure of our Maker."† "We can attribute their connexion to nothing else but the arbitrary determination of that all-wise agent, who has made them to be, and to operate as they do, in a way wholly above our weak understanding to conceive."‡ What this amounts to is, that in a purely hypothetical realm of things (which consist of something I know not what, and whose essence is unknowable, and whose existence is only inferred because of our repugnancy to uncaused ideas, which repugnancy might be and is equally satisfied by the assumption of God) there are assumed to be motions, which are unknowable, but which precede or accompany certain of our ideas (which are the material objects of common sense), but which as the cause of these ideas are wholly inconceivable, so that in the end we must throw up our hands and say that these ideas are wholly due to the good pleasure of God. The difference between Locke and Malebranche seems to be one of words. But Locke, although he admits that a metaphysical realm of unknowable particles in motion is useless, yet since so much of his system is bound up with an assumption of this realm, and since he bases so much of his doctrine upon the casual

†IV. iii. 6.
‡IV. iii. 28.

efficacy of these unknowable motions, he retains it in spite of its absurdity.

21. INTERACTIONISM. Locke may have harmonized his occasionalism, with his interactionism, in his own mind, by admitting that, ultimately, of course, God is the sole cause of whatever we experience, changes caused by one material thing acting upon another as well as ideas in our minds, but that on a less ultimate level of thought, not metaphysically but scientifically, i. e., psychologically, we can speak of motions in the brain causing ideas in the mind. Once getting over the difficulty, it would be easy to drop back to a more metaphysical way of regarding causes. But, however he may have made peace with himself about this matter, he is clearly an interactionist.

Each of the fundamental substances as agents has certain powers, which may be considered as of two kinds, active powers and passive powers. The one is that attribute or ability* by virtue of which an agent is able to initiate any change; the other that by virtue of which it is able to suffer or transmit any change. God is supposed to be that being who has only active powers, matter has only passive powers, while created spirits possess both active and passive powers. Leaving God out of the account, it seems clear that whatever finite beings experience is due to something that takes place in the unknown realm of substrata. In the case of ideas from sensation, simple ideas are the result of the meeting of the fundamental substances in their respective atomic forms. The material corpuscles must imprint† themselves upon the cognitive corpuscles, and the latter must somehow react upon the former. This must be so because, in this hypothetical realm which we have posited in order to explain the origin of ideas, there are just these two kinds of substances, and they have just the powers we have given them, and they are in the atomic form. From this interaction, then come two results, viz., simple ideas of sense and new changes or motions among material atoms. In harmony with these assumptions we must regard the cognitive

*II. xxi. 16.
†II. xxix. 3.

corpuscle as something very similar to a protoplasmic cell. If it is a purely spiritual substance, then, spiritual substance must possess plasticity and mobility. This seems rather materialistic, but if there is to be interaction how can we escape these assumptions? Ideas of sense are, therefore, modifications or dents impressed upon the cognitive corpuscle, as upon a piece of wax,‡ are the only objects of cognition, i. e., the mind or soul perceives only its ideas. Not only can the soul initiate changes among the material atoms, but also, manifestly, among the dents or impressions on its plastic surface, and consequently on or within itself, i. e., it must change its form by presumably amoeboid movements. By these internal changes the soul thus re-distributes and rearranges the dents imprinted upon it, in a way characteristic of its powers: reasoning, believing, knowing, etc. If the soul perceives its dents and likewise the changes taking place among them, it must perceive that dents are being made, hence simple ideas from reflection. The soul, then, knows its own surface, by means of the impressions upon it. Hence, *cog ito ergo sum.*

Dents imprinted upon this plastic surface are simple ideas of sense; the folds or twists of this surface are simple ideas of reflection; a system or correlated arrangement of these dents is a complex idea of sense; while the complex ideas of reflection are the more involved turmoils of the surface. It is clear why simple ideas are atomic, for atomic projectiles could make only atomic dents. The fact that these projectiles come in swarms does not lessen the simplicity and relative independence of the simple ideas.

The soul corpuscle, however, is not naked. It has an enclosing ectoderm, the body. This ectoderm is composed of unknowable material atoms, and it partially protects the soul from the external bombardment. At the same time it is the material arrangement by means of which the soul acts upon or effects changes among the incognitive atoms of the external physical world. This ectoderm, moreover, is not entire, but has various soft spots, traditionally

‡II. xxix. 3.

enumerated as five, through which external agitation reaches the soul. Each soft spot is of such a specific nature that only the bombardment of certain kinds of projectiles are able to make an impression upon the soul surface itself. The eye, not the eye of anatomy but that system of unknowable material particles which is the substratum of the eye of anatomy, is one of these soft spots; and it is impervious to all projectiles except very minute light corpuscles of Newton's emission theory. Likewise with the other sense inlets.

22. IDEAS AND QUALITIES OF BODIES. It is essential in Locke's discussion of qualities that they should be carefully distinguished from ideas. In regard to the raw material of knowledge, i. e., simple ideas, the mind, he says, is wholly passive.* Simple ideas are nothing but "the effects of certain powers in things, fitted and ordained by God to produce such sensations [ideas] in us."† "It is true," he says, "the things producing in us these simple ideas, are but few of them denominated by us as if they were only the causes of them, but as if those ideas were real beings in them. For though fire be called painful to the touch, whereby is signified the power of producing in us the idea of pain, yet it is denominated also heat and light; as if light and heat were really something in the fire more than a power to excite these ideas in us, and therefore are called qualities in, or of the fire. But these being nothing, in truth, but powers to excite such ideas in us, I must in that sense be understood when I speak of secondary qualities, as being in things; or of their ideas, as being the objects that excite them in us. Such ways of speaking, though accommodated to the vulgar notions, without which one can not be well understood, yet truly signify nothing but those powers which are in things to excite certain sensations or ideas in us."‡ These powers that reside in things themselves are the qualities of these things themselves. "Thus a snowball having power to produce in us the ideas of white, cold and round, the power to produce these ideas in us, as they are in the snowball, I call qualities; and as they are sensa-

*II. xxx. 3.
†II. xxxi. 2.
‡II. xxxi. 2.

tions or perceptions in our understandings, I call them ideas, which ideas if I speak of sometimes as in the things themselves, I would be understood to mean those qualities in the object which produce them in us."**

We have now determined definitely that there are two ways of regarding things or bodies and their qualities. There is the common-sense thing with its common-sense qualities, which is nothing but a complex idea with simple ideas. There is the critical thing or thing itself with primary or critical qualities. The critical qualities are the powers of critical things to produce two kinds of common-sense qualities in common-sense things, or what is the same thing, the primary or critical qualities of things themselves have the power to produce two kinds of ideas, viz., primary and secondary ideas. When, therefore, we make a distinction between primary and secondary qualities of things, we can mean only primary and secondary ideas. Critical things have only primary or critical qualities.

23. WHAT ARE SECONDARY CRITICAL QUALITIES? The primary qualities of bodies are, according to Locke, solidity, extension, existence, duration, figure, motion, or rest, and number. These are the qualities which material substance really has. These qualities do not depend upon the presence of a percipient mind. They are the qualities things in themselves have independent of any knowledge about them. Manifestly there are no secondary critical qualities, for secondary qualities, he says, such as colors, sounds, tastes, etc., are really not in the things themselves but are the "powers to produce various sensations (ideas) in us by their primary qualities, i. e., by the bulk, figure, texture, and motion of their insensible parts."† But as we have just seen primary qualities of things themselves are just the *powers* they have of producing ideas in us. And since Locke has shown that there is no sense in speaking of one power having another power‡ we are bound to conclude that things themselves do not have secondary qualities.

**II. viii. 8.
†II. viii 10.
‡II. xxi. 16.

Suppose we take an example of a secondary idea. The simple secondary idea of blue, according to the emission theory, is produced by a stream of exceedingly fine corpuscles, traveling at a terrific speed, and impinging on the retina, where they set up a motion. This motion is carried back to the brain along the optic nerve, where it causes the simple idea to arise. Red is produced in a like manner. The difference is that the red-producing corpuscles are large and smooth compared with the blue-producing corpuscles. The latter may be also oblong instead of spherical. Since sunlight is composed of a mixture of all the various color-producing corpuscles, the question arises why do some objects reflect red-producing corpuscles while others reflect blue-producing corpuscles? The proximate cause of the simple secondary idea in the complex idea of blue flower, is *ex hypothesi,* the smallness and oblongness of the corpuscles that are reflected from the thing itself. Just this particular kind of corpuscles is reflected to the eye on account of the texture or surface of the flower itself. The red-producing corpuscles strike upon the petals just as the blue-producing corpuscles do, but owing to their size and sphericity, and to the texture of the petals, they are not reflected from its surface. Thus, the cause of the idea blue, is primarily the particular form, size, shape, or number, etc., of the light corpuscles. But more remotely, the cause of only one or another kind of corpuscles being reflected to the eye from an object is the particular texture, grain, or conformation of its minute parts. What then are the secondary critical qualities? They are the particular instances of the primary qualities. Red, let us say, is the effect of a spherical form, blue of an oblong form. Form itself is primary. No material substance exists without form. But the particular form is secondary. Motion is a primary quality. Heat, as Locke says, is an idea caused by the motions of the minute parts of water, for example, on the sensible parts of our hands. But whether the water will feel cold or hot, depends upon what kind of a motion is conducted to the brain. The secondary quality is

the particular motion, say of so many vibrations per second. We can see now why primary and secondary ideas are so closely related, why we can never see pure extension without some secondary idea of color or touch. Secondary critical qualities, therefore, do exist in things themselves as the specific or particular instances of the primary qualities. Since bodies can not have motion, figure, extension, etc., without some particular motion, figure, extension, primary qualities are merely generalizations from secondary qualities. Secondary qualities are the particulars, and primary qualities are the universals. As Socrates would say, the argument is laughing at us. We began by regarding secondary qualities as derived from primary, and now we end by stating that primary qualities are merely generalizations from secondary.

Since "all things that exist being particulars,"* and since "universality belongs not to things themselves, which are all of them particular in their existence; even those words and ideas which in their signification are general," and "when therefore we quit particulars, the generals that rest are only creatures, of our own making; their nature being nothing but the capacity they are put into by the understanding, of signifying or representing many particulars. For the signification they have is nothing but a relation, that by the mind of man is added to them."† Primary critical qualities are thus general ideas used as signs in the classification or sorting of secondary critical qualities. Secondary critical qualities are the only qualities of things themselves that really exist. Primary critical qualities have only a nominal existence. Thus there are no ideas like critical qualities. The idea of figure has nothing like it in reality. "Figure is nothing but the termination of colour."‡ Redness is more primary than extension.

24. IF COMMON-SENSE BODIES RESEMBLE CRITICAL BODIES. Secondary common-sense qualities do not exist in things themselves "otherwise than as anything is in its cause."§ Colors, sounds,

*III. iii. 1.
†III. iii. 11.
‡(Elemts. of Nat. Phil. ch. X.)
§II. xxiii. 9.

smells, and tastes, in so far as they exist in things themselves, exist as particular forms of primary qualities. They exist there, i. e., there is something in things themselves that corresponds to and is the cause of the secondary common-sense qualities, but what exists there does not resemble its effect in us. But on the other hand, in the case of the primary common-sense qualities, what exists in things themselves as the cause of primary ideas in us, does resemble these ideas. "The ideas of primary qualities of bodies," he says, "are resemblances of them, and their patterns do really exist in the bodies themselves; but the ideas produced in us by these secondary qualities have no resemblance to them at all."* "The particular bulk, number, figure, and motion of the parts of fire, or snow, are really in them, whether any one's senses perceive them or no, and therefore they may be called real qualities, because they really exist in those bodies."† Now, what is it for one thing to be like another? One thing is like another in one particular if they both have one identical quality. If an orange and a ball resemble each other in form, they both have the quality of sphericity. If two things resemble each other in all particulars except numerical identity, they have identical qualities. Two things are alike in so far as they possess identical qualities. If, therefore, common-sense bodies resemble the critical bodies which underlie them, they are identical in respect of these qualities. Common-sense primary ideas are, consequently, identical with critical primary qualities. Ideas of motion are motion, ideas of extension are extension. The common-sense body which has ideas of motion, extension, figure, etc., has the primary qualities of motion, extension, figure, etc. Now, a material body is that which has these primary qualities. Common-sense bodies, then, are material bodies. Since common-sense bodies are complex ideas in the mind, there are material bodies, with the qualities, of extension, figure, motion, existence, etc., in the mind. The mind thus has within itself a material world which resembles an external material world in respect of these primary qualities. This

*II. viii. 15.
†II. viii. 17.

internal material world differs from the external material world in that it possesses an indefinite number of secondary qualities, which do not resemble the secondary critical qualities which are their causes. Since ideas themselves are not substantial existences, but the effects of the interaction between substantial existences, we have the result that there exists as a complex object before the mind, a material world which has the qualities of extension, motion, figure, existence, etc., but which does not require a support or substratum for these qualities. But if we regard ideas, not as a *tertium quid,* but as parts or modifications of the soul substance itself, then we must conclude that the soul substance possesses all the qualities of material substance. Cognitive substance would thus include all substance, and the distinction between cognitive and incognitive substance would be the distinction between the whole and the part. But this Locke forbids us to do. We must therefore declare that the common-sense external world is a real material world without a substratum, or else that common-sense bodies do not resemble critical bodies in respect of their primary qualities.

If a common-sense body can be said to be like a critical body only in so far as it possess the same or identical qualities, and if the likeness is greater in so far as the number of identical qualities is greater, it follows that common-sense bodies, whatever they are or however they are caused, *possess* these critical qualities in their own right. That they *have* these qualities is consequently no ground for supposing that they are caused or that they have an unknowable substratum. If we assert that they are caused or need a support, we must do so from some other ground than that of the mere presence of these qualities. But this is the very argument that Locke uses to prove a substratum. Hence it appears that he must give up his external real world as a useless assumption, or else deny that this real world has bodies similar to the bodies of the common-sense world. If he would do this, then he could not assert that the real external world has solidity, existence, duration, figure, motion or rest, or number. His whole

rationalistic scheme of atoms in motion, of sense organs and animal spirits, would go to pieces. Since existence is a primary quality, he could not assert that his hypothetical external world actually existed. It would be truly unknowable and incomprehensible. Apparently the only escape from this dilemma is to abandon the doctrine of ideas and assert that the common-sense external world is *the* external world.

25. THE GROUND OF DISTINCTION BETWEEN PRIMARY AND SECONDARY QUALITIES. It appears that Locke divided qualities of bodies into primary and secondary because he found that solidity, extension, figure, duration, motion or rest, number, and existence, are more important than the various sounds, colors, tastes, smells, temperatures, and feelings of hardness, softness, etc. But the importance of the former is that to a special natural science, viz., physics. The so-called primary qualities are important for physics on account of its special problems. It finds it convenient for its special purposes to make this distinction. When we come to examine the human understanding, surely we are not studying a branch of physics. It may be that from this standpoint the so-called secondary qualities are the most important. At least it is not evident that the special problems of physics should dominate our investigation.

In trying to justify the assumption of the first importance of the qualities of solidity, figure, etc., Locke offers the following proof: "Qualities thus considered in bodies are, first, such as are utterly inseparable from the body, in what estate soever it be; such as in all the alterations and changes it suffers, all the force can be used upon it, it constantly keeps; and such as sense constantly finds in every particle of matter which has bulk enough to be perceived, and the mind finds inseparable from every particle of matter, though less than to make itself singly perceived by our senses: v. g., take a grain of wheat, divide it into two parts, each part still has solidity, extension, figure, and mobility; divide it again and it retains still the same qualities; and so divide it on till

the parts become insensible, they must retain still each of them all those qualities: for division (which is all that a mill, or pestle, or any other body does upon another, in reducing it to insensible parts) can never take away either solidity, figure, or mobility from any body, but only makes two or more distinct separate masses of matter of that which was but one before; all which distinct masses, reckoned as so many distinct bodies, after division, make a certain number. These I call original or primary qualities of body, which I think we may observe to produce simple ideas in us, viz., solidity, extension, figure, motion or rest, and number."* Secondary qualities, he says, "are nothing in the objects themselves, but powers to produce various sensations [ideas] in us by their primary qualities." So far this is confusing and inconclusive. A grain of wheat is a common-sense body with color as well as extension. The ideas of color, taste, and smell are in the complex idea, grain of wheat, as well as, and of as much importance as, the ideas of extension, mobility, or figure. When we reduce the grain of wheat to particles so fine as to be imperceptible, the ideas of extension, mobility, and figure, cease to exist along with the ideas of color, taste, and smell. Since he himself says that figure is the limit of color, it is clear that when we get no idea of color we get no idea of figure. He can not, therefore, mean common-sense body, the complex idea, grain of wheat. But he can not be thinking of the critical body of his theory, for that, *ex hypothesi,* has only the so-called primary qualities. Here, his task is to show why some qualities are more important than others, and his theory must gain its plausibility from the results of this investigation and not contrariwise.

In another passage, he says, "First the ideas of the primary qualities of things, which are discovered by our senses, and are in them even when we perceive them not; such are the bulk, figure, number, situation, and motion of the parts of bodies, which are really in them, whether we take notice of them or not. Secondly, the sensible secondary qualities, which depending on these, are nothing but the powers those substances have to produce several

ideas in us by our senses; which ideas are not in the things themselves, otherwise than as anything is in its cause."† What constitutes importance for physics, apparently, is permanence. If a quality is an abiding quality it is important and primary. If its presence or condition depends upon the presence or condition of a percipient it is not important and primary for physics. If Locke is talking about the common-sense body, then, what he says amounts to this: among the various qualities of the common-sense body, there are some which persist whether we observe them or not; the other qualities, which are the effects of these on us, cease to exist when we no longer observe them. But this implies that an idea persists when it is not an object before the mind, and that Locke denies. An alternative is that primary ideas and primary qualities are identical, and that the object under discussion is made partly of ideas and partly of real abiding qualities. But in that case, the mind would perceive something other than its ideas, which is also denied by Locke. Or, if primary qualities are ideas, then we have some ideas as the cause and support of others, and the occasion for an external world disappears. In fact, what he means by body here, is something that can be regarded either in a common-sense way or in a critical way, or half one and half the other. That is, it means anything he wants it to mean at any point in the argument. The only definite assertion is that some qualities depend upon a perceiving mind and that some others do not.

The proof of this assertion appears to be this: The color, heat, or sound of a body changes with the surrounding conditions and its relation to the sense organs. When the light ceases to strike upon a piece of porphyry, for example, its colors vanish. Now, the bulk and figure of this piece remain the same, whether it is in the light or not, and whether we are looking at it or not. "Can any one think any real alterations are made in the porphyry by the presence or absence of light: and that those ideas of whiteness and redness are really in porphyry in the light, when it is plain it has

†II. xxiii. 9.

no colour in the dark? It has, indeed, such a configuration of particles, both night and day, as are apt by the rays of light rebounding from some parts of that hard stone, to produce in us the idea of redness, and from others the idea of whiteness; but whiteness or redness are not in it at any time, but such a texture, that hath the power to produce such a sensation in us."*

There are really two arguments here. One, that secondary qualities depend upon the presence and functioning of the sense organs, the other that secondary qualities are more unstable and fluent than the primary. Suppose we take the latter first. It is the argument from mechanical physics and does not necessarily imply that some secondary qualities are not always present with the primary. A quality that is important for physics is one that lends itself to mathematical formulation. The spatial qualities of bodies can be so formulated. By them events can be given a numerical statement and their occurrence predicted. The laws or ways in which they occur can be stated mathematically. The reason why secondary qualities are unimportant for physics, is not that a perceiving mind is necessary for their existence, but because they are qualities such as can not be dealt with mathematically. This, it will be admitted, is legitimate, if mathematical statement is our purpose. But Locke implies that this statement is equivalent to the statement that primary or spatial qualities are unconditioned. This is an unwarranted implication and is not demanded by mathematical physics. As Locke himself is forced to admit, the ideas of primary qualities are conditioned as much by the ideas of secondary qualities, as the secondary by the primary. What physics is dealing with, is not the critical objects, but the common-sense objects. What it says is that the spatial ideas are more important for its purposes than the so-called secondary ideas. But all the time it is dealing with the world we know, the world of ideas, in Locke's sense. In the case of a sensible object, it is the size, shape, or conformation of its parts that is important. Its color, odor, etc., can be neglected. Physics is

*II. viii. 19.

interested in the length and the diameter of a vibrating string, not in its color or taste. But this is not saying that it *has* no color or taste, or that it is possible to have one without color or taste. The thing we are talking about is an experiencible object, one that we can see and touch. In the case of the insensible parts, the molecules or atoms, if they are said to exist at all, they exist such that, if our touch or sight were sensitive or acute enough, we could actually feel or see them. It is a mere accident that we do not. In lieu of seeing or touching them, we imagine ourselves seeing or touching them. That is, *they are of the same nature* as the larger objects. It is like looking at a page of fine print across the room. What I see is a rectangular gray patch on the white paper. I say that this gray patch is made up of three or four hundred black letters of definite shapes, i. e., I mean that if I were close enough to the page that is what I should see. These unseen letters are of the nature of Locke's ideas. Atoms and molecules are not the material substratum, but are the fine parts of our experienced world. They are in the same class with distant objects or with inaccessible objects, as the center of the earth. *They are related to and coherent with what we do experience.* Locke and the physicists can not say that primary ideas are unconditioned by secondary ideas. As has been admitted there are no pure primary ideas. Extension is the extension of something seen or touched. What Locke appears to say is that primary qualities, the qualities of the real unknowable substrata which he thinks we are forced to assume, are unconditioned by secondary ideas. Or, although primary qualities are like primary ideas, there are no secondary qualities like secondary ideas. The reason is that, since primary ideas are found to be important for mechanical physics while secondary ideas can be ignored, therefore real qualities of things themselves are like the primary ideas. This would be valid only in case primary ideas are unconditioned by secondary ideas. But since primary ideas are conditioned by secondary ideas, we are not

warranted in concluding that there are no secondary qualities like secondary ideas which condition the primary qualities.

If those qualities which are important are the only ones belonging to real things, it remains to be shown why the purposes of physics are to be taken into consideration rather than the purposes of the musician or colorist, for example. To explain a musical composition or a painting in terms of vibrations of certain amplitudes and frequencies would hardly be allowed by the musician or painter. Just as the physicist would have to admit that his primary qualities are not unconditioned by the others, so the musician would have to admit that certain spatial qualities are present as conditions of musical expression, but with the same right by which the physicist ignores certain qualities as unimportant the musician can ignore these spatial qualities. The important qualities for him are other than these. When we consider all the various purposes and the peculiar qualities that are important for them, the innumerable practical and social purposes, the aesthetic, moral, and religious purposes, the singling out just those qualities which are important for mechanical physics as the only qualities belonging to material reality, seems to need more cogent argument than Locke has offered. It must be noted, however, that Locke is dealing only with the primary qualities of material substance.

In his second argument by which he attempts to show that secondary qualities are not qualities of things themselves because they are nothing but effects in us of the primary qualities, Locke feels that he has proved his thesis conclusively. Redness and whiteness are not in the porphyry, because these qualities change with the alterations of light. The piece of porphyry is unchanged whether it is in the light or not. It has its primary spatial qualities just the same. This reference to a change of illumination, however, is not necessary to his argument. What he means is that a well-lighted piece of porphyry has neither redness nor whiteness unless there is a man there, with his eyes in normal condition, looking at it. It is the redness and whiteness of the

porphyry that I am now observing under favorable conditions, and which I believe, as a common-sense observer, to be the qualities of the porphyry, that are not in the porphyry at all but are in me. Locke offers as a test case, the fact that when one hand is cold and the other hot, tepid water will feel hot to the cold hand and cold to the hot hand. "Ideas being thus distinguished and understood, we may be able to give an account how the same water, at the same time, may produce the ideas of cold by one hand and heat by the other; whereas it is impossible that the same water, if those ideas are really in it [are we to imply that primary ideas are in it?], should at the same time be both hot and cold: for if we imagine warmth, as it is in our hands, to be nothing but a certain sort and degree of motion in the minute particles of our nerves or animal spirits, we may understand how it is possible that the same water may, at the same time produce the sensations of heat in one hand, and cold in the other; which yet figure never does, that never producing the idea of a square by one hand, which has produced the idea of globe by the other."* There is another experiment in perception known to Aristotle and common among school children of our day which from its simplicity might well have been known to Locke. Take the two hands. If we hold a small marble or a pea between the thumb and finger of one hand we get the idea of a primary quality, number. We feel one marble. If we touch the crossed fingers of the other hand with the same marble we get the idea of two marbles from that hand. At one and the same time, the same object gives us the primary idea of one-ness from one hand and of two-ness from the other.

In general, Locke's test for the permanence of spatial qualities is that they are not subject to illusions. His assumption is that those qualities which change with the varying conditions of observation are secondary, those that do not are primary. A very elementary knowledge of sense illusion, however, shows that the so-called primary qualities are quite as subject to illusion as the secondary. Without going into a modern discussion of illusion

*II. viii. 21.

this is very evident. We can cite from Locke himself the illusory character of certain ideas of primary qualities. "When we set before our eyes a round globe, of any uniform color, v. g., gold, alabaster, or jet, it is certain that the idea thereby imprinted in our mind is of a flat circle variously shadowed, with several degrees of light and brightness coming to our eyes."† We judge this flat circle to be a spherical body evidently by correlating it with our ideas from touch. The illusion of a painting, he implies, is due to this customary judgment. That sight does not give us the third dimension he admits in his answer to Molineaux's problem of the blind man who regains his sight. He is of the opinion, he says, "that the blind man, at first sight, would not be able with certainty to say, which was the globe, which the cube, whilst he only saw them."‡ In criticising Malebranche's assertion about our perception of a cube that "we see all its sides equal," he says, "This, I think, is a mistake; and I have in another place shown how the idea we have of a regular solid, is not the true idea of that solid, but such an one by custom (as the name of it goes), seems to excite our judgment to form such an one."† There is an illusion of motion, which is not given by Locke, but which requires no erudition or elaborate apparatus. The perception of motion is usually attributed to a movement of the image on the retina. This occurs and we have the perception of movement, whether the eye is stationary and the object moving, or whether the object is stationary and the eye quickly moving. But when one sights down a gun barrel at a distant object and then without moving the eye focusses the eye on the rear sight, the object is seen to move. Evidently this perception of movement is due to a judgment, based probably on the movement of the closed eye. Ideas of primary qualities from sight, can not therefore be said to resemble the primary qualities themselves. The eye is subject to illusions of size, form, number, motion, and solidity. Since the senses of hearing and taste and smell are likewise subject to illusion, and since Locke does not regard them as principal sources

†II. ix. 8.
‡(Ibid.)
†(Exam. of P. M.'s Opin. 12.)

of our primary ideas,* we have only the sense of touch whereby we can get true ideas of primary qualities.

If we give up all the senses but touch by what criterion are we to judge it? If the eye deludes us in regard to the color and shape of the piece of porphyry before us, how do we know that touch is not doing the same thing? When an old soldier with his leg amputated feels his lost foot extended in space, how is he going to deny the reliability of his idea? What about the primary idea of existence? In the case of vivid dreams and hallucinations the case for touch seems to fall to pieces. Reality, therefore, can not be sought in primary spatial qualities.

26. THE HOPELESS CONFUSION OF LOCKE'S THOUGHT. The seeming plausibility of Locke's argument for primary qualities is due to his confusion of the common-sense body with his hypothetical or "real" body, and of primary ideas with primary qualities. He says, "I hope I shall be pardoned this little excursion into natural philosophy, it being necessary in our present inquiry to distinguish the primary and real qualities of bodies, which are always in them (viz., solidity, figure, number, and motion or rest; and are sometimes perceived by us, viz., when the bodies they are in are big enough singly to be discerned) from the secondary and imputed qualities, which are but the powers of several combinations of those primary ones, when they operate, without being distinctly discerned; whereby we may also come to know what ideas are, and what they are not, resemblances of something really existing in the bodies we denominate from them."† This sentence is eloquent of the confusion into which he has fallen. He is talking about "real" bodies, the things themselves, not complex ideas. He says these real bodies have in them real primary qualities. We are not concerned at present in denying this statement. Let us suppose there are such real bodies, and that their real qualities are solidity, extension, figure, etc. Now he goes on to say that under ordinary conditions, i. e., when the bodies are not of microscopic dimensions or less, these primary qualities *are*

*II. xiii. 2.
†II. viii. 22.

*perceived by us.* He has taught us before that primary qualities *are not* and from their nature *can not* be perceived by us. Whatsoever the mind perceives in itself, or is the immediate object of perception, thought, or understanding, that I call idea; and the power to produce any idea in our mind I call quality of the subject wherein that power is. Thus a snowball having the power to produce in us ideas of white, cold, and round, the powers to produce those ideas in us, as they are in the snowball, I call qualities; and as they are sensations or perceptions in our understandings, I call them ideas."* Round, which is a primary idea in the complex idea, snowball, is produced in us by a power in the real snowball. This power is the real primary quality residing in the thing itself. The most that can be said for the primary idea is that it is *like* the primary quality. Now he says that these primary qualities are perceived by us. In another place, he says, in most sensible things "we can not avoid observing their sensible qualities, nay, their very substances, to be in a continual flux."‡ But since whatever is an object when a man thinks is an idea, primary qualities are, sometimes at least, ideas. Thus primary qualities are and can not be ideas. We recall that he says, "which ideas, if I speak of sometimes as the things themselves, I would be understood to mean those qualities in the objects which produce them in us," and in another place we find him saying "powers" and "substance" when he means simple ideas and complex ideas, as "therefore it is that I have reckoned these powers among simple ideas, which make the complex ones of the sorts of substances; though these powers, considered in themselves, are truly complex ideas. And in their looser sense I crave leave to be understood, when I name any of these potentialities among the simple ideas which we collect in our minds, when we think of particular substances."‡ Let us take him at his word. In the sentence at the beginning of this paragraph, he speaks of real qualities being perceived by us. Evidently, therefore, according to the indulgence he allows himself, whereby words are all things to all men, we can

*II. viii. 8.
‡II. xxi. 4.
‡II. xxiii. 7.

interpret the sentence in question as meaning that there are primary ideas in common-sense bodies or complex ideas, which are perceived by us. The "sometimes" now becomes anomalous. Are there primary ideas which are not objects perceived? What other meaning can be given to the word? But an idea is that which is an immediate object. We are forced to conclude that an idea is and may not be an immediate object before the mind. But to continue the substitution of "ideas" for "qualities" in the sentence in question, we see that secondary and imputed ideas are but the powers of several combinations of those primary ones. Primary ideas are, consequently, powers of complex ideas to produce in us secondary ideas. Complex ideas, thus, are made up only of primary ideas; secondary ideas are the product of complex ideas. But, on the other hand, we have learned that complex ideas are just those constellations of ideas of whatever sort which come together, concomitantly or serially. Secondary ideas are, part of that which is their cause. Consequently, they are and are not primary. Again, what can Locke mean by speaking of primary qualities operating "without being distinctly discerned?" If he means the qualities of things themselves which are the causes of ideas in us they are not only *not* distinctly discerned but not discerned at all. But if he means primary ideas, then some ideas operate. But ideas are nothing but effects in us. Therefore some ideas are causes which are nothing but effects. Thus Locke comes to the conclusion of his sentence, "whereby we may also come to know what ideas are, and what are not, resemblances of something really existing in the bodies we denominate from them." It is clear that we can not substitute here. He implies that he has shown that some ideas resemble and that some do not resemble the qualities in things themselves which are their causes. If we substituted as before Locke would be saying that some ideas resemble other ideas and that some ideas do not. At this point Locke's empiricism and rationalism meet and result in a nest of an-

tinomies. Aside from the truth or falsity of anything he says, it is impossible to give a coherent statement to his doctrine of primary and secondary qualities. The most serious charge that can be brought against him at this point is that, expressly and with malice prepense, he gives himself the license to say one thing and mean another.

27. THE ORIGIN OF PRIMARY IDEAS. Locke says, as we have seen, that secondary qualities exist in things themselves only in so far as anything exists in its cause. By this he admits that there is something in things themselves corresponding to, but not resembling, secondary common-sense qualities. If we assume some cognitive being who is capable of perceiving things themselves with their primary or real qualities, as probably Locke's angels or as God apprehends them, that being would apprehend that a body to which man imputes, or which is the cause of, redness, is different from a body to which man imputes blueness. He would perceive a difference in the surface, texture, or coagmentation of parts. Locke could not escape this conclusion. We can not, even theoretically, say that two bodies are identical in respect of their primary qualities, but differ in respect of their secondary common-sense qualities. The very fact that two bodies differ in respect of their secondary or imputed qualities, shows, *prima facie,* that there are powers in the bodies themselves adequate to these effects. His doctrine of the cause of ideas depends upon this. But this forces us to our former conclusion that the powers which produce secondary common-sense qualities in us, are the particular kinds of primary qualities. Primary qualities as such have only nominal existence. If a real body produces any idea in us, it does so by virtue of its particular powers. How is it possible, we may ask, for primary ideas to arise? They could arise only through that which causes secondary ideas. But this cause seems to be exhausted in producing secondary ideas. Whence comes this additional effect? The only mode in which such additional effects could exist would be as particular extensions, forms, motions, etc. General ideas, as he maintains, are abstractions. There would be

in the mind, when some real body produced ideas in us, distinct ideas of color, taste, smell, etc., as the case may be, and, in addition, distinct ideas of particular extension, figure, motion, etc. The cause of secondary ideas would thus be the cause of primary ideas. Since primary ideas have no sense inlets of their own, they have to come in more or less freely, through the inlets of secondary ideas. But when I look at a red rose, the complex idea in my mind, I see clearly, according to the corpuscular theory of light, that that which causes the distinct idea redness, is not the cause of the particular idea of extension or figure I perceive. I get the same idea of redness whether I look at the whole rose, at a single petal, or a part of a petal. The cause of the idea of redness, is, by the theory, due to the fine parts of the flower, and not to its gross outlines. How do these gross outlines get before the mind on the backs of the configuration of the fine parts? If we take Locke's assertion that figure is the limit of color, in a visual object, then we regard the real body as having a gross extensity and form made up of finer extensities and forms, which fine extensities and forms are the cause of the secondary ideas. The gross parts are nothing but the aggregation of the fine parts. But the fine parts produce ideas which are not like them. How, then, can any aggreation of fine parts produce an idea that is like it? At this point on the real petal the fine parts produce the idea of redness, at other points the fine parts do the same. How can the summation of effects produce anything but just redness? Locke might say that the addition of effects would be observed by the mind as more and more, and hence the idea of voluminousness and extension. But this, if true, is introspective evidence. There is nothing in his doctrine to show why the powers which produce secondary ideas at the same time produce primary ideas. He himself says it is inconceivable how primary qualities of bodies produce secondary ideas in us so unlike their causes. It is likewise inconceivable, if they do, how they could produce anything else. But when Locke

speaks of the cause of primary and secondary ideas, he seems to regard the effect of the fine parts of the body as secondary ideas, and the body as an extended whole as the cause of primary ideas. He seems to regard the cause of primary ideas as in some way entirely distinct from the cause of secondary ideas. But as we see, the cause of secondary ideas has the load to carry. Besides producing secondary ideas, it must produce various other primary ideas than extension. In the case of the red rose, besides the particular extension and figure, it must produce the idea of duration, rest or motion, solidity, and more remarkable than all, the idea of existence. But the existence of what, since there are no universals? Existence of the body with its primary powers, which powers produce ideas in us. But how the quality of existence can produce the idea of existence is the most incomprehensible of all Locke's assumptions. Why does the idea of real existence attach itself just to the primary ideas? Why does it attach itself to itself? Moreover, how can we distinguish dreams, hallucinations, or everyday illusions, from reality? If we say false judgment, then reality is perceived by true judgment and the idea of real existence is a product of judgment, and not an effect in us like the ideas of red or sweet, or particular form. Locks leaves unexplained, therefore, the origin of primary ideas.

28. PRIMARY QUALITIES OF MIND.—In the case of primary qualities of mind, there are peculiarities not found in the case of primary qualities of material bodies. In the first place the mind is an "intermediary" or active-passive substance. It may be conjectured, he says, that "Pure spirit, viz., God, is only active; pure matter is only passive; those things that are both active and passive, we may judge to partake of both."* The ideas from reflection are produced in the mind by itself. The mind perceives its own processes. These processes are active or self-caused processes and receptive processes. In time, the receptive processes come first. "In time the mind comes to reflect on its own operations, about the ideas got by sensation, and thereby stores itself with a new set of

ideas, which I call ideas from reflection." Again there are no sense organs or inlets for ideas from reflection. Nor does the distinction between primary and secondary qualities, if there be such a distinction, rest upon the same ground as the same distinction with respect to those of material bodies. In regard to the primary ideas which are common to minds and material bodies, the way in which these qualities produce ideas in us is necessarily different, but the idea is the same. In the case of the mind we have a new application of immediate apprehension. Instead of being applied only to ideas, it is applied, in respect of existence for example, to the quality itself. There are other ideas, as that of relation, which present unique problems. The status of conviction, beliefs, and revelation is also of peculiar importance. In the first place, what are the qualities of mind?

The original causes of our ideas from reflection, Locke says, are "perceptivity, or the power of perception or thinking; motivity, or the power of moving," or "the power of beinning or stopping several thoughts or motions,"* and existence, duration, and number.† The primary ideas corresponding to these powers of the mind are perception, volition, existence, duration, and number. It is thus seen that the mind has only two distinctive primary powers. "The ideas we have belonging and peculiar to spirit are thinking and will, or a power of putting body into motion by thought, and, which is consequent to it, liberty. For as body can not but communicate its motion by impulse to another body, which it meets with at rest, so the mind can put bodies into motion, or forbear to do so, as it pleases."‡ Motivity is a power of the mind not only to cause movements among material things but to move the mind itself in space. "There is no reason why it should be thought strange, that I make mobility belong to the spirit: for having no other idea of motion but change of distance with other beings that are considered as at rest,—and finding that spirits, as well as bodies, can not operate but where they are, and that spirits do operate at several times in several places,—I can not

*II. xxiii. 30.
†II. xxi. 73.
‡II. xxiii. 18.

but attribute change of place to all finite spirits (for of the infinite spirit I speak not here). For my soul being a real being, as well as my body, is certainly capable of changing distance with any other body, or being, as body itself, and so is capable of motion."§ The mind thus considered is an intermediate substance between God and matter, or at least partaking of the powers both of pure spirit and pure matter. Although Locke uses thinking and perceptivity as equivalent, it seems possible that the former is a more inclusive term, meaning whatever goes on in the mind. "Believing, doubting, intending, fearing, hoping; all which are but the several modes of thinking." But perception as we shall see is regarded by Locke as a passive power, while thinking seems for him to include volition or active power. Thinking, however, is not used by him to include the power to move our bodies. Thinking, and volition seem to partially overlap, but perception and volition do not.

29. SECONDARY QUALITIES OF MIND. Primary qualities of bodies are distinguished from secondary qualities for two reasons, as we saw: the former are more important for mechanical physics, and they do not depend upon the presence of a percipient being. Secondary qualities of bodies are made up of or are the specific instances of the primary. There is no conceivable connection between the primary quality and secondary idea. Does or can Locke make this distinction with respect to the qualities of mind? If we were to treat mind as we do matter, the symmetrical way would be to study, not ourselves but other minds. But of these, he says, "we have no ideas but what we draw from that of our own, by reflecting on the operations of our own souls within us, as far as they can come within our observation."† "That there are minds and thinking beings in other men as well as himself, every man has a reason from their words and actions, to be satisfied."‡ Other minds produce no ideas in us. We have then only ourselves to observe in determining the qualities of mind. Locke, however, leaves us in the dark about secondary qualities, although from his

§II. xxiii. 19.
†IV. iii. 17.
‡IV. iii. 27.

precise designation of primary qualities it is to be inferred that there are secondary qualities. He seems to include secondary ideas by classifying all the ideas from reflection under one of the five primary ideas. Believing, doubting, fearing, knowing, loving, hating, and the like are just kinds of perceptions or thinking. One should think that ideas of emotion would be most suitably classed as secondary, either from perception or volition, but he does not do it. I may perceive that I fear or hate, but fearing or hating is not perceiving. Locke could say, just as he does in the other case, that it is inconceivable how certain combinations of perceptivity, motivity, existence, duration, and number produce these ideas of emotion in us, but that God has ordained that such emotions be annexed to such combinations. It being as inconceivable how the perceiving of a bear can cause the idea of fear, as how a certain texture of a flower petal can cause the idea of blue. Since emotions are fleeting, while perceptivity, motivity, etc., we have always, whether we have ideas or not, it would seem that emotions are the most suitable ideas from reflection to be regarded as secondary. The same inconsistencies would develop here as in the other case, but it would make his discussion more symmetrical.

The ideas of pleasure and pain are received according to Locke, both from sensation and reflection.* In the case of pleasure and pain from sensation, it is clear that they are secondary ideas due to the primary qualities of material bodies, as in cuts, burns, and bruises. But Locke insists these ideas are caused also by reflection. They must therefore be secondary. Thus, ideas of love, hate, joy, sorrow, hope, fear, anger, despair, and envy, may be secondary ideas from reflection, depending on and caused by some conformation or combination of perceptivity, motivity, existence, duration, and number.

If we suppose these ideas of emotion, which Locke treats generally as modes of pleasure and pain,† to be the same, whether caused by primary qualities of material bodies or of minds, the

*II. xx. vii..
†II. xx.

question arises how two such diverse causes can produce the same effects. Locke does not answer this question except in so far as to say that the infinitely wise Author of our being has annexed these ideas "to almost all our ideas." As to pleasure, "if this were wholly separated from all our outward sensations and inward thoughts, we should have no reason to prefer one thought or action to another; negligence to attention, or motion to rest. And so we should neither stir our bodies, nor employ our minds, but let our thoughts (if I may so call it) run adrift, without any direction or design; and suffer the ideas of our minds, like unregarded shadows, to make their appearances there, as it happened, without attending to them."‡ "Pain has the same efficiency and use to set us on work that pleasure has, we being as ready to employ our faculties to avoid that, as to pursue this."† The part in which we are interested here is not the divine purpose in the presence of ideas of pleasure and pain, but that such ideas are annexed, as an effect to a cause, to the primary qualities both of mind and matter. Locke goes on to say, "only this is worth our consideration, that pain is often produced by the same objects and ideas that produce pleasure in us." Ignoring this illegitimate use of "ideas," it must be admitted that experience furnishes some justification for the assertion. The same degree of heat may be either pleasant or unpleasant, the same intellectual activity may likewise bring pleasure or pain. This peculiarity can better be explained in the realm of sense experience than in that of reflection. We can account for the first by considering the condition and office of the sense organs, but in ideas from reflection there are no sense organs. How, for example, can a certain complex idea from reflection, an ideal of life, at one time give pleasure and at another pain? There would seem to be an immediate relation of acquaintance in each case, and no room for any disquieting factor to enter. If we may say that the ideal fits into our life and personality at one time, but after we have developed, that there is no longer harmony, then we have adopted a new cause for ideas of pleasure

‡II. vii. 3.
†II. vii. 4.

and pain. But without some such explanation, we must fall back on the good pleasure of God. But however we try to explain their presence and their numerous modes, the explanation that fits the ideas of pleasure and pain from sensation will not fit those from reflection. We are left with mystery. Secondary ideas from reflection are thus treated by Locke with more vagueness, if that be possible, than secondary ideas from sensation.

30. ORGANS OF INTERNAL SENSE. Locke says, "I pretend not to teach, but to inquire, and therefore can not but confess here again, that external and internal sensation are the only passages that I can find of Knowledge to the understanding. These alone, as far as I can discover, are the windows by which light is let into this dark room: for methinks the understanding is not much unlike a closet wholly shut from light, with only some little opening left, to let in external visible resemblances, or ideas of things without: would the pictures coming into such a dark room but stay there, and lie so orderly as to be found upon occasion, it would very much resemble the understanding of a man, in reference to all objects of sight and the ideas of them."* It is not unlikely that Locke was very familiar with the fact that in a darkened room a small aperture in the blind will allow images of outside objects to be projected against the walls. He doubtless knew the essential facts of a camera obscura, and it is certain he knew of retinal images.

Although this figure of the dark-room illustrates the entrance of ideas from sensation it is confusing when applied to ideas from reflection. Locke seems to put internal and external sense on an equality. They are both inlets or posterns or windows through which ideas enter. Each furnishes the mind with a unique kind of ideas. The dark-room has two chinks; through one come resemblances or representations of external material objects; through the other representations of the mind's own processes. The first is evidently the sense organs and the brain with its afferent connections. What is the second chink? To take the il-

*II. xi. 17.

lustration as it stands there would have to be an external-internal world of causes for ideas from reflection. The mind would be the passive observer for both kinds of ideas. The mind as observer would need only its white paper passivity; for the so-called powers of mind would have to be given to those hypothetical objects in this external-internal world. Our repugnancy to uncaused ideas would demand this. This realm of reflection would be the proper place to put the substratum for memories and fancies. We should thus have three realms. The external world, the internal world, and the world of ideas. The substratum for ideas of either sort would be an I-know-not-what. The mind, instead of being illustrated as a protoplasmic cell with a protecting ectoderm, would have to be regarded as a link or isthmus between the two realms of reality like the neck of an hour-glass. If we imagine this neck to be a dark cabinet with an opening on either side for the entrance of the two kinds of ideas from their respective realms, we have a beautifully symmetrical illustration.

It is evident that ideas from reflection can not be illustrated thus. Since ideas from reflection are representations of the mind's own processes, the mind has to get out of itself and observe itself at work. In order to illustrate this by means of a dark-room and a chink, it would be necessary to have two dark cabinets, the internal sense cabinet adjoining the external sense cabinet with an opening into it, by means of which representations or images of what went on in the external sense cabinet might be produced in the other. We should thus have one external world and two cabinets for the reception and elaboration of its influences. This seems to illustrate Locke's saying, that we do not perceive without perceiving that we perceive. We must necessarily perceive that we perceive that we perceive. Hence an indefinite regress. Supposing that this is not absurd, it remains to be explained what and where this reflective peep-hole is. But Locke gives us no account of internal sense organs. Presumably

there are none. But since Locke gives so much importance to our external sense organs, and since he speaks of sensation and reflection as the two sources of all our ideas, we seem justified in looking for internal sense organs; and it is surely against his doctrine that we do not find them.

It seems that the mind perceives immediately its own processes, i. e., it is self-conscious. I perceive that I perceive. Is it possible to perceive that I do *not* perceive? What he says about ideas from privative causes* leads us to suppose that it is possible. His general position seems to demand it. If the mind can some way observe what is going on in the dark-room, it must likewise observe that there is nothing going on there when the senses are closed. It is thus theoretically possible, according to this position, for the mind to observe itself in that original blank state, the *tabula rasa*. But this is contradictory; for then the *tabula rasa* would have on it "this is a *tabula rasa.*" It is clear that the mind can not perceive that it does not perceive. Ideas from privative causes must be based upon something positive. There must be some idea representative of some reality, which is the means by which ideas of reflection come to be, the idea of something like a sense organ. We must ask, does "the eye of the mind" have any significance? Locke seems to regard the mind's eye as that idea from reflection, active attention, i. e., the empirical system of ideas, or self, which determintes and dominates what ideas shall be objects. For example, he says, "How, as it were in an instant, do our minds with one glance see all the parts of a demonstration."† Now, since the ideas of the external sense organs come in as other ideas do, it is nothing against the validity of our judgment that they are caused by real sense organs, so we can say that although the idea of attention comes in as other ideas from reflection, that fact does not hinder it from being representative of some real mind's eye. Locke seems to regard the mind as acting as a whole in reflection, hence the mind must be its own reflective sense organ. Just as the real bodily sense organs do not "see" external objects but are the means of those objects produc-

*II. viii. 1-6.
†II. ix. 10.

ing those ideas in us, so the mind does not "see" itself; but in its capacity of a sense organ produces not only ideas of itself in itself, i. e., the unity, system, and coherence among ideas, but also distinctive ideas of its own processes, perception, volition, believing, knowing, etc., which appear as acts of the empirical self, just as seeing, hearing, etc., appear as acts of the ideas of bodily sense organs.

31. Perceptivity and Motivity. Locke is often understood as teaching that the mind is at first purely passive. This is unwarranted. Perceptivity and motivity, or perception and volition, are primary qualities or powers of mind, and the distinctive primary qualities. Being primary they are both present in experience, even while the mind is being furnished. If perceptivity is, as Locke says, "the first step and degree towards knowledge, and the inlet of all materials of it,"* it is first in a logical sense not a chronological one, although Locke inconsistently mentions the temporal priority of these materials. The mind being a passive-active being, it can not be *in time* at first passive and later active. His purpose in treating the mind first as a *tabula rasa*, is, obviously, that he can not treat all qualities of the mind at once, and that since in a logical order the materials of knowledge must be furnished before knowledge is possible, the mind in its passive capacity should be regarded first.

We do not simply perceive or merely act, but we think, which includes both. Thinking is that which takes place in the mind as a matter of fact. Perception as well as volition are abstractions. They are the results of an analysis of thinking. "Perception, as it is the first faculty of the mind, exercised about our ideas; so it is the first and simplest idea we get from reflection, and is by some called thinking in general. Though thinking, in the propriety of the English tongue, signifies that sort of operation in the mind about its ideas, wherein the mind is active; where it, with some degree of voluntary attention, considers anything. For in bare perception, the mind is, for the most part, only passive; and what

*II. ix: 15.

it perceives, it can not avoid perceiving."* But as Locke points out the mind may be engrossed in some object to the exclusion of all other ideas, so the mind by its quality of motivity may modify if not wholly determine what ideas it shall perceive. "How often may a man observe in himself, that whilst his mind is intently employed in the contemplation of some objects, and curiously surveying some ideas that are there, it takes no notice of impressions of sounding bodies made upon the organ of hearing with the same alteration that uses to be for the producing of sound. A sufficient impulse there may be on the organ; but if not reaching the observation of the mind, there follows no perception; and though the motion that uses to produce the idea of sound be made in the ear, yet no sound is heard. Want of sensation, in this case, is not through any defect in the organ, or that the man's ears are less affected than at other times when he does hear: but that which uses to produce the idea, though conveyed in by the usual organ, not being taken notice of in the understanding, and so imprinting no idea in the mind, there follows no sensation."† It would appear that the mind is, as a matter of fact, not merely a *tabula rasa*. "The perception of ideas being (as I conceive) to the soul, what motion is to the body, not its essence, but one of its operations."‡ "Hence it is probable that thinking is the action, not the essence of the soul."§ Logically perception or perceptivity, is purely passive and volition or motivity is purely active. Thinking is both. Perceptivity and motivity are qualities the mind has from the very first.

32. ACTIVE AND PASSIVE POWERS OF MIND AS ACTUALLY INSEPARABLE.— Perception is the same thing as "having ideas."** "What perception is, every one will know better by reflecting on what he does himself, what he sees, hears, feels, etc., or thinks, than by any discourse of mine. Whoever reflects on what passes in his own mind, can not miss it, and if he does not reflect, all the words in the world can not make him have any notion of it."†† Locke speaks of ideas being "introduced," "imprinted," "pro-

*II. ix. 1.
†II. ix. 4.
‡II. i. 10.
§II. xix. 4.
**II. i. 9.
††II. ix. 2.

duced," "conveyed in," "received." The mind is "furnished" with ideas; they "happen" to it; they are brought before it; they are its objects. In having ideas, Locke appears to teach that the mind is passive. This plastic power or quality is perception. Perception *qua* perception is passive. It is a sequacious power. In treating the mind thus in respect of one of its qualities, Locke is abstracting. The mind is not, according to Locke, purely passive in perception. It is both active and passive, not one or the other. "If our knowledge were altogether necessary, all men's knowledge would not only be alike, but every man would know all that is knowable: and if it were wholly voluntary, some men so little regard or value it, that they would have extreme little or none at all. Men that have senses can not choose but receive some ideas by them; and if they have memory, they cannot but retain some of them; and if they have any distinguishing faculty, can not but perceive the agreement or disagreement of some of them one with another: as he that has eyes, if he will open them day by day, can not but see some objects, and perceive a difference in them. But though a man with his eyes open in the light, can not but see, yet there be certain objects, which he may choose whether he will turn his eyes to; there may be in his reach a book containing pictures and discourses, capable to delight and instruct him, which yet he may never have the will to open, never take the pains to look into."* Although we can not know things as we please, yet there is this voluntary element in all that we know. As John Burroughs says, "You must have the bird in your heart before you can find it in the bush." Locke is perfectly justified in treating the mind in respect of its passive power, if by that he thinks he can get a better understanding of the mind. But if by this procedure we are led to judge that the mind, as a matter of fact, is passively furnished with its ideas, our conclusion is erroneous.

In the case of ideas from reflection the mind is not passively furnished, that is evident. The mind itself produces these ideas

*IV. xiii. 1.

and its passivity can not be divorced from its activity. Just what happens, say, when the mind has the simple idea of perception? There is no awareness of the eternal object, the mind, or the impression, *as such.* The idea of perception is produced by the mind itself in itself. No external object can directly produce an idea of perception. The mind itself is the agent or organ of this production. What is it that is produced? The conscious correlate of the mind is the empirical self, the coherent system of all the ideas of whatever sort. What appears is this empirical self in relation to some idea from sensation. This relation, with its terms is the idea of perception. It may be thought that Locke teaches that in the case of simple ideas from sensation the mind is so far purely passive. Not so. According to Locke we never get any simple ideas from sensation, because the mind never perceives without perceiving that it perceives. Hence, *all our ideas are ideas from reflection.* Ideas from sensation are abstractions from ideas from reflection. Therefore, the mind is not passively furnished with ideas of any kind. All ideas are produced by the mind as active. The mind itself has passivity in respect of outside impressions, but the ideas are produced, not by these impressions but by the mind so impressed. Of the two powers or qualities, motivity appears to be the most important. Whatever Locke may say to the contrary this is the outcome of his premises. That this is a true interpretation of Locke is shown, not only by demonstraton based upon his premises, but also by his plain statements. "These powers of the mind, viz., of perceiving, and of preferring, are usually called by another name: and the ordinary way of speaking is, that the understanding and will are two faculties of the mind; a word proper enough, if it be used as all words should be, so as not to breed confusion in men's thoughts, by being supposed (as I suspect it has been) to stand for some real beings in the soul, that performed those actions of the understanding and volition. For when we say the will is the commanding and superior faculty of the soul; that it is, or is not free; that it deter-

mines the inferior faculties; that it follows the dictates of the understanding, etc., though these and the like expressions, by those that carefully attend to their own ideas, and the conduct of their thoughts more by the evidence of things than the sound of words, may be understood in a clear and distinct sense; yet I suspect, I say, that this way of speaking of faculties has misled many into a confused notion of so many distinct agents in us, which had their several provinces and authorities, and did command, obey and perform several actions, as so many distinct beings: which has been no small occasion of wrangling, obscurity, and uncertainty in questions relating to them."* Perception and volition are thus not separate faculties or beings in the mind, as the assumption of pure passive perception would have them. In showing that we get the clearest idea of active power from spirit, he says, "Nor have we of active power (which is the more proper signification of the word power) fewer instances: since whatever change is observed, the mind must collect a power somewhere able to make that change, as well as a possibility in the thing itself to receive it. But yet, if we will consider attentively, bodies, by our senses, do not afford us so clear and distinct an idea of active power as we have from reflection on the operation of our minds. For all power relating to action,—and there being but two sorts of action whereof we have any idea, viz., thinking and motion,—let us consider whence we have the clearest ideas of the powers which produce these actions."† Thinking is the manifestation of an active power, and perception is not distinct from thinking. The *efficacy* whereby an idea is changed or produced, "however various, and the effects almost infinite, yet we can, I think, conceive it, in intellectual agents, to be nothing else but modes of thinking and willing."‡

33. PERCEPTION. There are three kinds of perception: 1. The perception of ideas in our minds. 2, The perception of signification of signs. 3. The perception of the connexion or repugnancy, agreement or disagreement, that is between any of our ideas. All these are attributed to the understanding, or the perceptive

*II. xxi. 6.
†II. xxi. 4.
‡II. xxii. 11.

power, though it be the two latter only that use allows us to say we understand."§ "There can be nothing more certain than that the idea we receive from an eternal object is in our minds: this is intuitive knowledge."** Since words are only a special kind of ideas, the perception of the significance of signs, is the perception of the significance of ideas. And as we shall see, all simple ideas are held by Locke to be signs. The perception of agreement or disagreement of ideas, involves a number of "a priori" principles, or as Locke says, "peculiar ways of agreement or disagreement of our ideas." Locke denominates them identity or diversity, relation, co-existence or necessary connection, and real existence. Since these various kinds of perception are knowledge, we can apply to them Locke's three degrees, viz., intuitive, demonstrative, and sensitive. In the first there is an immediate relation of acquaintance between the mind and its ideas. This kind of perception gives the highest degree of certainty.‡ "When the mind can not bring its ideas together, as by their immediate comparison, and as it were juxta-position," it perceives the agreement or disagreement by "intervening" ideas, and this is reasoning. When clearly perceived it is demonstration. Lastly, the perception of the existence of particular external objects completes the account. Yet, there appears to be another degree of perception which has a higher certainty than any of these. This is revelation. Here the mind is purely passive. No reaction or doubt is possible, not even when the idea or proposition disagrees with common experience and the ordinary course of things. "The reason whereof is, because the testimony is of such an one as can not deceive, nor be deceived, and that is of God himself. This carries with it an assurance beyond doubt, evidence beyond exception. This is called by a peculiar name, revelation; and our assent to it, faith; which as absolutely determines our minds, and as perfectly excludes all wavering, as our knowledge itself; and we may as well doubt of our own being, as we can whether any revelation from God be true."§ Evidently revelation has a peculiar

§II. xxi. 5.
**IV. ii. 14
‡IV. ii. 1.
§IV. xvi. 14.

potency, but just what this is, is not evident. Locke says God "illuminates the mind with a supernatural light." "If he would have us to assent to the truth of any proposition, he either evidences that truth by the usual methods of natural reason, or else makes it known to be the truth which he would have us assent to, by his authority; and convinces us that it is from him, by some marks which reason can not be mistaken in."* Although reason may be used to determine what is or what is not "inspired," yet it has no power over the matter of revelation. Reason is like the chirographist who determines who has written a given document, but has no authority over the contents of the document. What are these "marks" of revelation? Mere belief or enthusiasm is no sign of inspiration. Neither is natural reason. "Thus we see the holy men of old, who had revelations from God, had something else besides that internal light of assurance in their own minds, to testify to them that it was from God. They were not left to their own persuasions alone, that those persuasions were from God; but had outward signs to convince them of the author of those revelations."† Thus we confront the miracles, the burning bush, the loaves and fishes, the fiery furnace, and all the rest. When God wishes to reveal something he not only has to excite the proper ideas in the mind of the prophet but he has to back them up with a supernatural occurrence. Those of us who get no revelations have to depend upon natural reason and the Scriptures which are attested revelation. But it is not clear that the far-famed prestidigitator, the "Prince of Darkness," might not duplicate the genuine miracles, and have certain revelations of his own attested in Scripture. Revelation now appears to be not a different kind of perception, but just the perception of the signification of signs. The origin of the inspired ideas or their peculiar combination, however, must be attributed directly to God and not to sensation or reflection.

*IV. xix. 14.
†IV. xix. 15.

This completes our account of the nature and origin of knowledge, according to Locke. Next comes the validity and extent of knowledge.

34. CRITERION OF TRUTH. Locke's obvious criterion of truth is correspondence or agreement. "Truth, then, seems to me, is the proper import of the word, to signify nothing but the joining or separating of signs, as the things signified by them agree or disagree one with another. The joining or separating of signs, here meant, is what by another name is called proposition. So that truth properly belongs only to propositions; whereof there are two sorts, viz., mental and verbal; as there are two sorts of signs commonly made use of, viz., ideas and words."* "The ideas in our minds being only so many perceptions, or appearances there, none of them are false; the idea of a centaur having no falsehood in it, when it appears in our minds, than the name centaur has falsehood in it when it is pronounced by our mouths or written on paper. For truth or falsehood lying always in some affirmation, or negation, mental or verbal, our ideas are not capable, any of them, of being false, till the mind passes some judgment on them, of being false; that is, affirms or denies something of them."† "Whenever the mind refers any of its ideas to anything extraneous to them, they are then capable to be called true or false. Because the mind in such a reference makes a tacit supposition of their conformity to that thing; which supposition, as it happens to be true or false, so the ideas themselves come to be denominated."‡ There are three classes of things, extraneous to ideas, to which ideas may be said to conform or agree. "First, when the mind supposes any idea it has conformable to that in other men's minds, called by the same common name," as justice, temperance, religion. "Secondly, when the mind supposes any idea it has in itself to be conformable to some real existence. Thus the two ideas of a man and a centaur, supposed to be the ideas of real substances, are the one true, and the other false; the one having a conformity to what has really existed, the other not." "Thirdly, when the mind refers any of its ideas to the real

*IV. v. 2.
†II. xxxii. 3.
‡II. xxxii. 4.

constitution and essence of anything whereon all its properties depend: and thus the greatest part, if not all our ideas of substances are false."* "As to the truth or falsehood of our ideas, in reference to the real existence of things; when that is made the standard of their truth, none of them can be termed false, but only our complex ideas of substances."§ When I say that the violet is blue, that is a true proposition because there is something in the thing itself corresponding to that idea. Mere likeness or unlikeness of an idea to the quality it represents, has nothing to do with the question of truth. The point is, there must be an agreement or conformity between the two if the proposition is true. All simple ideas are therefore true, or rather they are neither true nor false. Falsity comes in when complex ideas are compounded of ideas in ways which nature never put together and which are judged to represent some real existence.

In spite of all the care Locke spends in developing his agreement criterion of truth, he is not able to apply it in a concrete case; and from the nature of his universe he can not apply it. Only God, or some of the superior angels could apply it. According to his general theory the mind knows only its ideas. It does not perceive the qualities of things, much less the essence of the substance in which these qualities stick. The mind can not judge that any idea is conformable to something that is not and can not be an object for the mind. This criterion of truth is a useless piece of machinery.

35. PROPOSITIONS. Making a proposition, according to Locke, is the joining or separating of signs, whether words or ideas. Verbal propositions are words joined or separated to make an affirmation or denial. Mental propositions are ideas likewise related. Purely verbal propositions are trifling and give us no knowledge. For example, when two abstract terms are affirmed one of the other, the significance is merely of sounds, as the proposition, "gratitude is justice." Or again, when part of a complex idea which any term stands for is predicated of that term, e. g., that "gold is a metal." The general rule for purely verbal

§II. xxxii. 5.
†II. xxxii. 18.

propositions is that "whenever the distinct idea any real word stands for is not known and considered, and something not contained in the idea is not affirmed or denied of it: there our thoughts stick wholly in sounds, and we are able to attain no real truth or falsehood."* Mental propositions are nothing but the perception of the connection or separation of ideas, which ideas have been joined or separated by the mind itself. True propositions are those in which the ideas joined or separated agree with or conform to the connection or separation of the real things of which they are signs. False propositions are those in which they do not. "Our knowledge, therefore, is real, only so far as there is a conformity between our ideas and the reality of things."† But where ideas are added or separated, when their certain agreement or disagreement is not perceived, but presumed to be so: that is judgment."‡ All knowledge is thus propositional and true. Judgment may or may not be true. "Knowledge being to be had only of visible and certain truth, error is not a fault of our knowledge but a mistake of our judgment, giving assent to that which is not true."§ Since the mind is not able in all cases to construct certainly true propositions, many of our propositions are judgments whose truth is only probable. Now, probability is the appearance of truth. A probable proposition is one that the mind forms by the process of demonstration from fallible proofs. The perception is not immediate and certain, hence probability is fallibility. "Our knowledge, as has been shown, being very narrow, and we not happy enough to find certain truth in everything which we have occasion to consider; most of the propositions we think, reason, discourse, nay act upon, are such, as we can not have undoubted knowledge of their truth: yet some of them border so near upon certainty, that we make no doubt at all about them; but assent to them as firmly, and act according to that assent, as resolutely, as if they were infallibly demonstrated, and that our knowledge of them was perfect and certain. But there being degrees herein from the very neighborhood of certainty and demon-

*IV. viii. 13.
†IV. iv. 3.
‡IV. xiv. 4.
§IV. xx. 1.

stration, quite down to improbability and unlikeness, even to the confines of impossibility: and also degrees of assent from full assurance and confidence, quite down to conjecture, doubt, and distrust."* Why does the mind separate or join ideas? Evidently the mind is actuated by a truth purpose. The mind makes propositions which it impresses upon itself with the purpose of constructing something that conforms to or agrees with reality. Since all knowledge is propositional, the mind's whole system of knowledge, whether of nature or mind, is a construction made by the mind from the raw material of impressions by means of its various powers or qualities, and impressed upon itself by itself, and appearing before the mind as ideas variously arranged, with the additional idea that the proposition is made by the mind. But this conclusion annihilates Locke's agreement criterion of truth.

36. AN EXAMPLE OF A TRUE PROPOSITION. Locke has led us to believe that a true mental proposition is one in which the ideas are joined or separated in a manner corresponding to the way in which the things of which the ideas are marks or signs, are joined or separated. As we have already learned, the things of which ideas are marks or signs are the primary and secondary qualities, critically regarded, as has been explained, and are not and can not be, objects for the mind. The criterion of agreement or correspondence implies comparison. But in this case we have to compare the system of ideas, which we make and know, with the qualities of which we are "incurably ignorant." At best, we are, as he says, in the "twilight of probability." "It is evident the mind knows not things immediately, but only by the intervention of the ideas it has of them."† But qualities are not things themselves. They inhere in substance; but of the real essence of substance we are more incurably ignorant than we are of its qualities. Qualities are the elephant that supports ideas; real essence is the tortoise that supports qualities. To inquire whether there is some support for real essence carries us so far into this mythology that it is difficult to find words to make even a verbal judgment. In

*IV. xv. 2.
†IV. iv. 3.

some way, however, God must be the final support. Yet, to know a true proposition by the criterion of agreement it would appear that we should compare it not only with qualities but with essences, if not finally with the divine substance and plan of the universe. Locke does nothing of the kind. In respect of one kind of ideas at least, he openly uses the coherence criterion. "Our complex ideas of modes," he says, "being voluntary collections of simple ideas, which the mind puts together without reference to any real archetypes or standing patterns existing anywhere, are and cannot but be adequate ideas. Because they not being intended for copies of things really existing, but for archetypes made by the mind to rank and denominate things by, can not want anything; they having each of them that combination of ideas, and thereby that perfection which the mind intended they should."* The example he gives of such an idea is a triangle. Perfection or logical coherence makes the idea true and adequate. The only example he sets over against trifling propositions is this: "We can know the truth, and so may be certain in propositions, which affirm something of another, which is a necessary consequence of its precise complex idea, but not contained in it; as that the external angle of all triangles are bigger than either of the opposite internal angles; which relation of the outward angle to either of the opposite internal angles making no part of the complex idea signified by the name triangle, this is a real truth, and conveys with it instructive real knowledge."† It would seem that the criterion of coherence made use of here, would not be inoperative in other complex ideas. Sense illusion shows that the mere presence of a constellation of simple ideas does not make this constellation true or adequate.

Locke holds in accordance with his nominalism, that what usually passes for the essence of anything, as man or gold, is an abstraction and has no counter-part in reality. As a matter of convenience the mind binds things into bundles and ranks them into sorts,‡ and annexes names to them. This abstraction

*II. xxxi. 3.
†IV. viii. 8.
‡II. xxxii. 6.

he calls the nominal essence. It is artificial and has no real existence. That is, there is no essence man, or gold. But on the other hand, the real constitution of things, the "being of anything, whereby it is what it is," that on which qualities depend,* is, as he says, not without reason held to be wholly unknown. "And thus the greatest part, if not all our ideas of substances, are false."† "Our complex ideas of substances being referred to patterns in things themselves, may be false. That they are all false, when looked upon as the representations of the unknown essences of things, is so evident, that there needs nothing to be said of it. I shall therefore pass over that chimerical supposition,***"†† All we have left then for propositions to conform to are qualities. But we arrive at qualities only by inference. Ideas must have a cause, we say, therefore there is a cause adequate to this result. But we can not test the truth of propositions by saying that ideas correspond to the real qualities. By our inference they *must* correspond. Qualities are the conclusion not the premises. By such a procedure there could be no such thing as illusion or error. But only simple ideas, by the above inference, can be said to be adequate. A proposition is a complex idea. Hence we are cut off even from inferential connection with the conjunction or disjunction of qualities. Moreover, according to Locke's theory of pleasure and pain, not only may the same causes produce ideas of either, but also diverse causes may produce the same ideas of either. The argument from adequate causation thus falls to pieces, and we are left with ideas.

Let us now take up an example of a true proposition, and see just what makes it true. This proposition must be one of those that increases our knowledge. Locke's so-called trifling propositions of identity, as "substance is substance," of predicating a part of the whole, as "lead is a metal," of affirming part of the definition of the term defined, as "gold is yellow," are very certain, but they concern only the signification of words and are not instructive, hence we can not use them. Also our example can not be expressed in general or abstract terms. We must affirm or

*III. iii. 15.
†II. xxxii. 5.
†II. xxxii. 18.

deny something of a "this," since there are only particular existences. To say that gold is hard, malleable, heavy, yellow, soluble in aqua regia, etc., is not going outside the definition of gold and is not instructive, according to Locke. Let us take a common fact of astronomy: "The sun is 93,000,000 miles from an observer on the earth." That seems to satisfy Locke's demands. It is particular; the predication is not contained in the subject; it is not verbal. It is based upon careful observation and calculation. We are instructed by it.

The terms of this proposition are all within the realm of ideas. The sun we are talking about is this particular bright disk moving across the sky, which, if we were closer and could exist as observers, we should see to be a huge flaming gaseous sphere. That we do not see it as a huge flaming sphere does not put it as such outside the world of ideas. The bluish gray mass yonder on the sky-line is a clump of trees. The so-called real appearance of the trees is that appearance in a certain class of appearances which I judge from practical or scientific reasons to be typical. The real tree of common-sense and science, is, in the terminology of Locke, a particular group of ideas, out of a class of such ideas, judged to be primary and typical for a certain purpose. If this purpose is to regard the cellular structure of the tree, then the "real" tree is that group or correlation of groups of ideas we get by looking though a microscope. If it is the molecular or atomic structure we are after, we regard those groups of ideas real which we get by looking *through* the imagination. We should see the atoms like so many pollen grains *if* our eyes were only sharp enough. So the real sun for science is that group of ideas we should get if we were in such a position as the purposes of astronomy demand. We supply the deficiency by imagining how it would look under certain conditions of observation, and describe it in accordance with this. After this fashion, the selenographer may draw us a picture of a lunar landscape, or the geologist a restoration of prehistoric monsters, or the historian "a morning's walk

in Rome under the reign of Commodus." Most of our realities are "restorations," ideal constructions; but which are nevertheless part of and continuous with "ideas"; soul of their soul and flesh of their flesh. This then is what we mean by the sun: an idea, *in the mind,* in Locke's sense.

Likewise the observer and the earth are ideas. The term, 93,000,000 miles must be considered as a sign of ideas we can never get at once. Our best way of comprehending this distance is by illustrations. A cannon shot, with the velocity of 2,500 feet per second, would require over six years to reach the sun. A railroad train with a speed of 60 miles an hour would require, it is said, 175 years. If we represent the sun by a globe two feet in diameter, the earth on the same scale would be the size of a very small pea, at a distance of two hundred and twenty feet. Feet, miles, railroad trains, and projectiles, are in Locke's realm of ideas. There is plenty of good every day space there. The world of the scientist is an interpretation and extension and completion of ordinary experience. The world of science is no unknowable mysterious substratum, as Locke at times would have us think. It is a perfectly good, sensible world, one that we can see, and feel, and hear. What we soon find out is that this world which is of one piece with experience can not be had all at once and some of it cannot be had at all but can only be "restored" by rigid proof. That the sun is 93,000,000 miles away is one of those propositions that requires proof. There are various methods, as calculations based on observations of the transit of Venus; as the velocity or aberration of light, motion of the moon, etc. What these proofs do is to construct that which can be experienced only in the imagination, and show how it is connected and indissolubly bound up with that which is experienced. Without thus being concreted with experience they have no meaning. All these proofs are demonstrations that our world is harmoniously extended beyond experience, that the world is a consistent whole. The proposition about the distance of the sun is true

because it is in harmony with such other propositions as "this stick is three feet long." Thus, complicated scientific propositions are true because they are consistent with or in harmony with other propositions. These other propositions which are called facts, are true because they represent or agree with certain "ideas." For example, the proposition "this stick is thirty-six inches long," is true because of a certain complex idea, yard stick. The actual criterion of truth is both agreement and consistency. But the agreement is not between propositions and unknowable reality, but between propositions and experience. Thus true propositions must have empirical consistency. Since propositions are ideas, it is seen that the truth of a proposition depends upon something *in the mind,* in Locke's sense.

Locke has a great deal to say about patterns and archetypes, and that propositions are true if they conform to them and false if they do not.* But what is an archetype? Our idea of a horse if its existence is affirmed, is true because there is such an animal, but our idea of a centaur is false because there is no such animal in nature. This is Locke's argument. But existing in nature means just those complex ideas from sensation. There are no such complex ideas as centaurs. But in all this we do not have to go beyond the realm of ideas. Locke's fundamental assumption of "ideas" does not demand it. Then there is an uncertainty about what he means by knoweledge. Sometimes he says knowledge is the agreement or disagreement of ideas. This would seem to leave out any extramental comparison. It would be in vain, however, to try to get a coherent theory of knowledge and truth from Locke. His confusion of idea and quality is marked in these instances. After laying all the corner stones of the above coherence theory of truth, and which he can not escape from, he quietly inserts quality for idea and then begins to talk about conformity to archetypes. But Locke can not talk about any sun that does not belong to the realm of ideas. When he thinks he is, we might train some of his own guns upon him. In criticising Malebranche's hypothesis of "Seeing things in God," he asks, "how can

*II. xxxii. 26.

he know that there is any such real being in the world as the sun? Did he ever see the sun? No; but on occasion of the presence of the sun to his eyes, he has seen the idea of sun in God, which God has exhibited to him; but the sun, because it can not be united to his soul, he can not see. How does he know that there is a sun, a sun which he never saw? And since God does all things by the most compendious ways, what need is there that God should make a sun that we might see its idea in him when he pleased to exhibit it, when this might as well be done without any real sun at all."* So far as the divine economy is concerned it is just as useless for God to make a real sun and have to annex ideas to certain of its motions as to occasion ideas when these certain motions obtain. The only difference seems to be that in the one case ideas are connected with certain motions as permanent appendages annexed once and for all, while in the other case God has to keep busy connecting the appropriate ideas to their causes. If Malebranche sees the sun in God, Locke sees the sun in his own mind. If Malebranche never sees the real sun, neither does Locke: if the one does not know of its existence, neither does the other. But Locke's criticism is perfectly just, applied either to Malebranche or to himself; and it removes the least ground for an agreement criterion of truth in the sense that a true proposition agrees with or conforms to some pattern or archetype not an idea and external to the mind.

37. IDEAS ARE MARKS OF SOMETHING OTHER. Although Locke holds that there are simple ideas, yet he maintains just as vigorously that ideas either simple or complex, are marks or signs of something other than themselves. But an idea can not be simple and significant at the same time. If it is a sign, besides being what it is, it must have some other idea annexed to it, by which it points to or indicates that of which it is said to be the sign. Here we come to the essential inconsistency of Locke's system. His system consists of two quests: the genesis of knowledge and the validity of knowledge. In the first place, in the case of material

*(Exam. P. M.'s Opin. 20.)

bodies, Locke makes his hypothesis of an external world of incognitive substances that have certain primary qualities, which cause ideas in the mind. This hypothesis is verified if it can explain the facts of experience better than any other. Locke believes that it does. But the central thing in the origin of knowledge is the simple idea. All knowledge is composed of simple unanalyzable objects. But these are effects in the mind. These ideas are simple because as effects they are simple. Being simple they are necessarily independent. The simple idea of whiteness, although connected or associated with the idea of coldness, in the case of a snowball, is nevertheless independent and distinct. This follows from the hypothesis; for whiteness is produced by an entirely distinct and independent cause, viz., a peculiar conformation of snow crystals which reflect white producing corpuscles, which in turn affect only the eye. By no other channel can whiteness be produced, and just this peculiar chain of causes and no other produces the idea of whiteness. Even in this, however, Locke is not consistent; because the ideas of pleasure and pain and the primary ideas are produced by no independent channel, and no simple secondary idea can free itself from them. But we must ignore this, as Locke does, in treating the origin of knowledge. Just as two or more telegraphic messages may be sent over the same wire at the same time, so we may suppose that in some way, physically possible, the proximate causes of simple ideas are independent, notwithstanding they come in by the same route. The simple idea is necessary, not only to Locke's doctrine of the association and compounding of ideas, but also to the distinction between primary and secondary qualities. If the idea of extension be not simple and independent, then Locke could never separate it from the secondary ideas in order to show the more permanent and important nature of its cause. But without this distinction, Locke's hypothetical real material world would have to be revised. A simple idea, according to Locke, is a simple effect in the mind which can not be analyzed into parts, and his material world is in-

vented for the express purpose of supplying these simple effects.

In this connection, the reason why there is an external material world is the mind's innate repugnancy to the affirmation of uncaused ideas. The mind is here like a cashier in a large department store which is fitted with a system of pneumatic tubes through which money to and from every part of the store is sent from and to him. Shut up in his office, he can be imagined to reason thus: "Here are certain coins and bills. Sometimes they come singly and sometimes together, but in all cases, I can distinguish certain definite unanalyzable units. I do not make this money; but it is here, and I can not suppose that it has not been made, therefore, it has been made somewhere and sent in through these tubes to me. All I can do is to arrange or classify it or send it out again. Of the real constitution and essence of this external realm I am incurably ignorant. But that there is such a realm I am certain. I am therefore justified in making an hypothesis about this external realm. But my hypothesis must explain the presence of these simple objects here. If my hypothesis on the other hand, based on the assumption that there is a real external realm, forces me to the conclusion that these objects I get are not simple and unanalyzable, I have then to choose between what I have supposed my innate repugnancy forces me to presume, i. e., an external realm of causes, and what I intuitively perceive, i. e., these simple unanalyzable objects. But if my hypothesis forces me to deny my intuitive knowledge, it is evidently unreliable."

When Locke comes to consider ideas from the side of the validity of knowledge, his hypothesis of an external material world does force the conclusion that ideas are never simple. This conclusion is patent but not acknowledged by Locke.

In explaining what he means by clear and obscure ideas, he says, "The perception of the mind being most aptly explained by words relating to sight, we shall best understand what is meant

by clear and obscure in our ideas by reflecting on what discovers to us visible objects, we give the name obscure to that which is not placed in a light sufficient to discover minutely to us the figure and colors which are observable in it, and which in a better light, would be discernable. In like manner our simple ideas are clear when they are such as the objects themselves, from whence they are taken, did or might, in a well-ordered sensation or perception, present them."* This, of course, is confused. What he is really talking about is ideas of ideas. I have the idea of a tree, i. e., I perceive a tree. When I no longer see the tree, I may remember it and make propositions about it. The idea I have of the tree when I no longer see it, may be clear or confused. "Whilst the memory retains them thus, and can produce them to the mind, whenever it has occasion to consider them, they are clear ideas."† But these ideas, which can be said to have meanings, are manifestly, not simple ideas from sensation, yet he treats them as if they were, and gives simple ideas from sensation the character of significance which belongs properly to remembered ideas. The cause of this confusion is the old story of identifying idea with quality. Locke probably thinks he is treating simple ideas as clear and obscure, and hence, as signs. "The causes of obscurity in simple ideas," he explains, "seem to be either dull organs, or very slight or transient impressions made by the objects, or else a weakness in the memory not able to retain them as received."‡ But the last cause clearly can not be admitted, for memory is the "power in many cases to revive perceptions which it [the mind] once had, with this additional perception annexed to them, that it has had them before."§ Remembered ideas are necessarily complex, so the causes of obscurity in simple ideas are dull organs and slight impressions. He also says, "As a clear idea is that whereof the mind has such a full and evident perception, as it does receive from an outward object operating duly on a well-disposed organ; so a distinct idea is that wherein the mind perceives a difference from all other; and a confused idea is such a one as is not sufficiently

*II. xxix. 2.
†(Ibid.)
‡II. xxix. 3.
§II. x. 2.

distinguishable from another, from which it ought to be different."* These remarks might apply to a remembered idea but not to a simple idea, for an idea caused by an external impression is just what it is whether the organ be well-disposed or ill-disposed.

Ideas are also either real or fantastical, adequate or inadequate, true or false. Let us take the first as typical. He means such ideas "as have a foundation in nature; such as have a conformity with the real being and existence of things, or with their archetypes. Fantastical or chimerical I call such as have no foundation in nature, nor have any conformity to that reality of being to which they are tacitly referred as to their archetypes."** The agreement criterion is now working smoothly. All simple ideas are real, he says, not that they are all exact images of what really exists, but that they are the "constant" effects in us of things themselves, ordained by our Maker to be such as they are: "the reality lying in that steady correspondence they have with the distinct constitutions of real beings."‡ Simple ideas are "assigned to be the marks whereby we are to know and distinguish things which we have to do with."§ How we can have a confused simple idea which is at the same time real is not clear.

If we stop to consider what these archetypes or patterns are, to which Locke refers, it is evident that they can not be the real essence of things. It would be absurd to say that we ever know that ideas correspond to that of which we are incurably ignorant. But when we consider the facts of sense illusion, it appears that we get simple ideas which have no essential archetypes. In certain pathological states everything is doubled, or of a characteristic color. "Though a man in a fever should from sugar have a bitter taste, which at another time would produce a sweet one, yet the idea of bitter in that man's mind would be as clear and as distinct from the idea of sweet as if he had tasted only gall. Nor does it make any more confusion between the two ideas of

*II. xxix. 4.
**II. xxx. 1.
‡II. xxx. 2.
§(Ibid.)

sweet and bitter, that the same sort of body produces at one time one, and at another time another idea by the taste, than that it makes a confusion in two ideas of white and sweet, or white and round, that the same piece of sugar produces them both in the mind at the same time."* Locke would say, probably, that in these cases the sense organ is deranged so that the motion it sets up in the animal spirits corresponds not to the actual external impression but to another impression which under normal conditions would give this motion. He can not avoid asserting that, if everything appears yellow to a man with jaundice, the yellow is a true, adequate, and right, simple idea. If this be his conclusion, and he has made no reservations, the archetypes or patterns of which ideas are marks or signs are the last motions in the animal spirits or brain that occur just before the idea arises in the mind.† The chain of motions from the external real thing are beset with so many hazards and modifications, that the only thing, which God has ordained to produce such and such ideas, is the last link in this chain. After the manner of Locke on Malebranche, in the words of Berkley, we might venture to ask how he knows that the whole choir of Heaven and furniture of the earth is not a mere ferment in his skull established and ordained by God. But since his skull is a part of the furniture of the earth, where is the final motion to take place? Or, on the other hand, if the archetypes of which simple ideas are marks or signs, are the primary qualities of things, and we know when an idea is true and right and adequate, as "sensible matter of fact," then the whole apparatus of ideas, sense organs, nerves, animal spirits, the dark cabinet and all the rest, appear to be altogether useless. If I know things as they are, what is the use of signs or marks?

Passing over these objections, it is certain that Locke holds that simple ideas are the representations or appearances as marks or signs of something other than themselves. Every simple idea, even the very first one, must be something like this: "I am what

*II. xi. 3.
†(Exam. of P. M.'s Opin. 10.)

I am, and I am also the sign of some real existence other than what I am."

To take up the idea of the cashier, supposing him to believe in a hard money basis, and supposing only paper money comes to him through the pneumatic tubes, we can imagine him reasoning thus: "Here are various bills which are the signs of real money which has actual existence in the external world. To be sure these green-backs do not say that there is gold or silver deposited in the treasury to redeem them, but I know from my science of political economy that the real basis for them is actual gold and silver. Green-backs are only secondary money and represent no real existence in the external world. They are simply the secondary effects of real money. On the other hand, these gold or silver certificates are primary effects of real money. Real money exists out there whether I have any certificates of it or not. But I am now confronted with a peculiar problem in the case of counterfeit money. There are true green-backs and counterfeit green-backs, true gold and silver certificates and counterfeit certificates; but how am I to tell the true from the false? Theoretically I know that the true bills correspond to some real existence other than themselves of which the Government in its wisdom has ordained they shall be the marks or signs. But the counterfeit bills come in through the tubes just as the real ones do, and since I do not make them, I am compelled, by a certain repugnancy of my mind to assert that they correspond to some real existence, and consequently are true bills. All simple bills are true, adequate, and right. The Government that has established and regulates this pneumatic system and the financial world beyond has ordained that just these bills and no others shall come to me; otherwise I should not have them. Falsity comes in when I classify them with bills which are not what they claim on their face to be. But this does not seem to help me. How can I know that a bill is not what it claims to be? Since I can not get out into the external world, whatever I do must be done here in my office. I must seek for principles and uniformities among these bills. I

must discover a system of classification. When I have done this, I shall judge those bills counterfeits which, classified as what they claim to be, do not harmonize with this system. My hypothesis of an external world is thus entirely useless to me. Perhaps I have been wrong in supposing there is an external world and a pneumatic system. Instead of being enclosed in a small office, I may be in a large room, running across these bills here and there. Perhaps this big room, with bills floating about, is one complete system, and that my repugnancy to uncaused bills is just my innate desire to discover this system. I can never discover the absolute truth of this system until I get all of it." This is just the case with Locke's "ideas." If they are signs of an external reality we have no way of determining their truth or falsity. The assumption of an external world is of no use to us. We are compelled to adopt the theory of the organic unity of experience.

38. THE DOCTRINE OF TWO WORLDS. Notwithstanding that the body with its so-called sense organs, nerves, and brain is a part of the internal material, the world of ideas, it is altogether probable that Locke assumes their real external existence, in his sense, from the very first. Supposing this is true, it is easy to see why he clings so tenaciously to his unperceived external world. He probably began as a common-sense observer noting the concomitant variations between the condition of his eyes, ears, and skin, and the presence, condition, or absence of the objects in his experience. One does not perceive real bodies immediately, Locke probably reasoned, but by means of the sense organs, nerves, and brain. Thus there exists between the perceiving mind and the real objects these organic structures. What takes place in them, when we perceive objects, is motions of one sort or another. It is obvious that these motions are not like the objects we perceive. Therefore, these motions, or rather, the last motion that occurs in the brain, is the cause of our perceiving an object; and moreover the object we perceive can not be the real object but a representation which is the sign of the real object. All the objects we

perceive are in the mind. All this is clear and obvious; for does not anatomy and physiology show that the eye is adapted for the receiving and transmitting just those motions of the light corpuscles, and is not the ear adapted for receiving and transmitting motions of the air? When our eyes are afflicted with cataracts or when our ears have no drums, is it not a fact we see or hear imperfectly or not at all? "It is plain those perceptions are produced in us by exterior causes affecting our senses: because those that want the organs of any sense never can have the ideas belonging to that sense produced in their minds. This is too evident to be doubted: and therefore we can not but be assured that they come by the organs of that sense, and no other way. The organs themselves, it is plain, do not produce them; for then the eyes of a man in the dark would produce colors, and his nose smell roses in the winter: but we see nobody gets the relish of a pineapple till he goes to the Indies, where it is, and tastes it."* It thus seems certain to Locke that we perceive only the effects of the motions in our minds. It is probable therefore that his doctrine of ideas was subsequent to and adopted to harmonize with his adopted theory of the sense organs and nervous system. The genetic order of his reasoning begins with an external world, proceeds to the sense organs, nerves, and brain, and culminates in his doctrine of ideas. Having shut himself in a dark cabinet, he is able to show the validity of his knowledge only by a *tour de force*. This he does by a direct appeal to common-sense. But the external world he adopts is not the external world of common-sense, and this appeal gives him no support.

This doctrine of two worlds, the world of ideas which includes all that we experience, and the world of real things which we do not experience but which is the cause of what we do experience, is devised to explain the correspondence between the structure and condition of the body and its organs and the perception or the having of objects. The doctrine of two worlds is involved not only in interactionalism but also in parallelism and epiphenomin-

alism. The peculiar thing about this doctrine is, that the proposition that there are two worlds, is involved both in the premises and in the conclusion. We begin by affirming that whatever is perceived by means of a medium either as a cause or parallel condition is only an effect or an accompanying occurrence of some cause or other occurrence. The body is seen to be the proximate cause or parallel condition of our perceiving objects. Therefore, what we perceive is not a real object but only an effect or parallel occurrence. In other words, I perceive immediately an external world of uniformity and law. I also perceive immediately that this world of uniformity and law is perceived by me only on the condition and hazard of one part of it, my body. Therefore, what is perceived immediately is not perceived immediately. I perceive my body to be the condition or cause of my having or perceiving objects, yet as a part of the external real world I do not and can not perceive it at all.

This correspondence between "body and mind" takes place in our one world of experience. Why we should not be like pure spirits is indeed a mystery. But it is a mystery in our one world of experience. But the doctrine of two worlds does not dispel this mystery. Interactionism, parallelism, or epiphenominalism, are just as incomprehensible and mysterious as that which they attempt to explain. It must be admitted that parallelism, if it is given, not as an explanation but as an attempt to state the facts of this mystery, is much to be preferred, i. e., a parallelism *in one world of experience.* But besides being as mysterious and incomprehensible as that which it attempts to explain, the doctrine of two worlds, like Royce's self-representative series, multiplies the mystery indefinitely. The same mysterious correspondence breaks out in this world of ideas. Here is the idea of my body with its eyes and ears, and skin and nose and palate: all ideas. Here is the idea of the external object, the vibrating air and Newtonian corpuscles: all ideas. When the *idea* of the eye shuts,

the *ideas* of external objects no longer appear. When the *idea* of the eye has the *idea* of cataract in it, *ideas* of visible objects appear imperfectly or not at all. Thus we have a full set of grounds for splitting up the world of ideas into external and internal realm. This internal world can likewise be dichotomised, and so on indefinitely.

Locke has shown us how diseased and imperfect organs of sense interfere with external sense perception. We have supposed that the correspondence between the condition of the sense organs and perceived objects, determined Locke to his doctrine of ideas or two worlds. Quite as strong a case can be made out, by the same method, for the dependence of ideas from reflection upon the condition of the body, especially the brain. A blow on the head puts an end to ideas from reflection quite as effectually as closing the eye puts an end to ideas of visible objects. Locke himself furnishes instances of a man cured of madness by a surgical operation.* The effects of alcohol, drugs, coffee, tea, and tobacco, upon ideas from reflection were well known to Locke. Just as a similar class of facts forces him to attribute a mediating function to the sense organs, nerves and brain, in respect of ideas from sensation, so this class of facts must force him to attribute a like function to some part of the body, presumably the brain, in respect of ideas from reflection. Some certain parts of the brain, and not the mind itself, are the internal sense organs. Without presuming too much upon modern physiological psychology, it seems certain that the argument leads to some form of localization in the brain of the proximate causes of all ideas. The mind consequently either does not have active powers or it is duplex, with the brain as a partition. Locke can not admit the former. The perception of ideas from reflection is then a sort of intellectual osmosis. But this is against Locke's concept of the mind as a unitary substance. The argument has thus brought Locke into a veritable *cul de sac*. It plays havoc not only with his conception of the mind itself but with the external world as well. The brain, being the "mind's presence room," is the location of the proximate

causes of all ideas. These causes mix freely together in the presence room. Not only does the motion set up by one material body get transformed into the motion properly set up by another, as when sugar tastes bitter, but also motions set up by material bodies, as alcohol or opium, produce modifications among the causes of ideas from reflection, and are in no way due to the active mind substance. It is now certain that the mere claim of an idea to be the mark of such and such a thing can not be taken at its face value. We can never be certain an idea from reflection has not been set up by some material motion, or that an idea from sensation is not due to the active powers of the mind.

39. Real Existence. In the case of his external world, Locke puts forward what he calls knowledge of real existence. "It is therefore the actual receiving of ideas from without, that gives us notice of the existence of other things, and makes us know that something doth exist at that time without us, which causes that idea in us, though perhaps we neither know nor consider how it does it: for it takes not from the certainty of our senses, and the ideas we receive by them, that we know not the manner wherein they are produced, v. g., whilst I write this I have, by the paper affecting my eyes, that idea produced in my mind which, whatever object causes, I call white; by which I know that that quality or accident (i. e., whose appearance before my eyes always causes that idea) doth really exist, and hath a being without me. And of this, the greatest assurance I can possibly have, and to which my faculties can attain, is the testimony of my eyes, which are the proper and sole judges of this thing, whose testimony I have reason to rely on as so certain, that I can no more doubt, whilst I write this, that I see white and black, and that something really exists, that causes that sensation in me, than that I write or move my hand: which is a certainty as great as human nature is capable of, concerning the existence of anything but a man's self alone, and of God."* Although this knowledge is not so certain as in-

*IV. xi. 2.

tuition or deductions of our reason, "yet it is an assurance that deserves the name of knowledge." "I think nobody can, in earnest, be so skeptical as to be uncertain of the existence of those things which he sees and feels. At least, he that can doubt so far (whatever he may have with his own thoughts) will never have any controversy with me; since he can never be sure I say anything contrary to his own opinion. As to myself, I think God has given me assurance enough of the existence of things without me; since by their different application I can produce in myself both pleasure and pain, which is one great concernment of my present state. This is certain, the confidence that our faculties do not herein deceive us is the greatest assurances we are capable of, concerning the existence of material beings. For we cannot act anything but by our faculties; nor talk of knowledge itself, but by the helps of those faculties which are fitted to apprehend even what knowledge is."* Locke's course of thought here runs very little above common-sense. With his characteristic ambiguity at crucial stages in his reasoning, he uses two kinds of external worlds: the common-sense external world and his own hypothetical external world. What cogency there is in his argument applies to the former; but he appropriates it for the latter.

Locke says that his eyes are the proper and sole judges of visible objects, yet by his own theory and assertions they deceive him in regard to all the visible secondary qualities and some of the primary. He says that he can not doubt that he sees white and black and that something really exists which causes these "sensations" (ideas) in him. The first part of this statement no one doubts. There is the experience of black letters on a white surface. But that something really exists distinct from the paper and ink as this constellation of ideas, and in a space distinct from this system of related ideas, as say in a fourth dimension, that not only may be doubted, but it is also not even demanded by natural science or common-sense. The book on the shelf before me, call it a complex idea if you like, is just as real a thing as I want. If there is

*IV. xi. 3.

some mysterious fourth dimensional reality supporting it, which I do not experience and can not experience, it does not interest me. I experience no repugnancy at all in resting with this "complex idea." I call this constellation of "ideas," that interests me, a real thing, a book. It is related by various systems of relations to other real things. I do not seek for a cause aside from other "complex ideas"; the paper mill, printing press, author, and book agent.

Another consideration, according to Locke, that proves the real existence of his external world, is the fact that an idea from sensation is distinct from an idea from memory. "There is a manifest difference between the ideas laid up in my memory (over which, if they were there only, I should have constantly the same power to dispose of them, and lay them by at pleasure) and those which force themselves upon me, and I can not avoid having. And therefore it must needs be some exterior cause, and the brisk acting of some objects without me, whose efficacy I can not resist, that produces those ideas in my mind, whether I will or no. Besides, there is nobody who doth not perceive the difference in himself between contemplating the sun, as he hath the idea of it in his memory, and actually looking upon it; of which two his perception is so distinct, that few of his ideas are more distinguishable one from another. And therefore he hath certain knowledge, that they are not both memory, or the actions of his mind, and fancies only within him; but that actual seeing hath a cause without."* Locke assumes that ideas from memory and fancy can be disposed of at will. But there is a stubbornness about both memories and fancies quite comparable to that of ideas from sensation. Locke gives an account of how he came to write this Essay. Can he dispose of that memory at his pleasure? To be sure he can turn his attention to something else, but so he can do with the sun. He can shut his eyes. And as he himself says, one can be so engrossed in some train of thought as to be entirely oblivious to the solicitations of the senses. But the ideas of memory and fancy

*IV. xi. 5.

have causes, i. e., the mind itself, and apparently there is no reason for not identifying their causes with that which causes ideas from sensation, except upon the ground that there is this distinction in causes, *which distinction is just now the point at issue.* It will be readily granted that there is a difference between the idea of the sun from sensation and the idea of the sun from memory. This is a statement of fact. But what is the difference? We have his own word that a remembered idea is the same idea we had before with the additional idea that we had it before. Suppose the remembered idea is the weaker, there is nothing against supposing that it is produced by some weaker external material cause, say some echoing motion of the brain. This would be supported by the fact that the simple ideas of the remembered idea are of just the same kind as those of the idea from sensation. If the distinction insisted upon is, not that one is weaker than the other, but that there is an accompanying idea that " I have had this before," that would not apply to ideas from fancy. But to consider only memory, do not ideas from sensation have an accompanying idea that, "I have not had this before?" What these significant ideas are is an apprehension of my biography; remembered ideas fit into it in one place and sensational ideas fit into it in another. So the mere presence of a sign or mark that dates an idea now or in the past is no guarantee that an idea of one sort has not the same cause or ground as one of another.

"Pleasure or pain which accompanies actual sensation, accompanies not the returning of those ideas," says Locke, "without the external objects,***." Thus the pain of heat or cold, when the idea of it is revived in our minds, gives us no disturbance; which, when felt, was very troublesome, and is again, when actually repeated; which is occasioned by the disorder the external object causes in our bodies when applied to it. And we remember the pains of hunger, thirst, or the headache, without any pain at all; which would either never disturb us, or else constantly do it, as often as we thought of it, were there nothing more but ideas floating in

our minds, and appearances entertaining our fancies, without the real existence of things affecting us from abroad. The same may be said of pleasure accompanying several actual sensations, and though mathematical demonstrations depend not upon sense, yet the examining them by diagrams gives great credit to the evidence of our sight, and seems to give it a certainty approaching to that of demonstration itself."* Now, pleasure and pain, as he has told us, are "only different constitutions of the mind, sometimes occasioned by disorder in the body, sometimes by thoughts of the mind."† "By pleasure and pain, delight and uneasiness, I must all along be understood (as I have above intimated) to mean, not only bodily pain and pleasure, but whatsoever delight or uneasiness is felt by us, whether arising from any grateful or unacceptable sensation or reflection."‡ And again: "Delight or uneasiness, one or the other of them, joins themselves to almost all our ideas, both of reflection and sensation: and there is scarce any affection of our senses from without, any retired thought of our mind within, which is not able to produce in us pleasure or pain."§ Juxtaposing these quotations seems sufficient to invalidate his argument. How can pleasure and pain be a guarantee of external reality when they attach themselves to all kinds of ideas? The fancies of the misanthrope, the hallucinations of the insane, the imaginings of one suffering from the delirium of a fever; and the dreams and nightmares, the sorrows, disappointments, and wranglings of ordinary life, all carry their pains, more acute, if we are to judge by the accounts, than purely physical pains. And likewise the pleasure of good company, rational thinking, righteous behavior, poetry, fiction, and a thousand others, are comparable and usually supposed superior to the pleasures of our senses. Not the least among the pleasures is that of philosophy. "I here put into thy hands," says Locke to the reader, "what has been the diversion of some of my idle and heavy hours: if it has the good luck to prove so of any of thine, and thou hast but half so much pleasure in reading, as I had in writing it, thou will as

*IV. xi. 6.
†II. xx. 2.
‡II. xx. 15.
§II. vii. 2.

little think of thy money, as I do my pains, ill bestowed."

Locke says that although actual hunger and thirst are painful, remembered hunger and thirst are not. What does this prove? Obviously that a present idea from sensation is different from the memory of it. Locke here is assuming that the alternative to his explanation is that all common-sense objects are *fancies* of the mind. But why not say that these objects are mere *ideas* of the mind? Locke himself has tried to show that the mind perceives only its ideas, and thus he horrifies common-sense. Now he tries to exploit this horror for his own use. But because I rest with common-sense objects, every-day houses, books, trees, and refuse to postulate an unperceived and unperceivable realm of causes for them, does not convict me of calling them fancies of my mind. If any one has tried to show that common-sense objects are *fancies* of the mind, Locke is that one.

Nothwithstanding that Locke speaks so confidently about the real existence of his external world, yet he feels that he has not made out a good case. It is foolish and vain, he thinks, for a man to doubt very plain and clear truths just because they are not capable of sure and certain demonstration and are open to the "pretense of doubting."* A belief in the existence of the external world is necessary to carry on the practical affairs of life. This uncertainty of his is more apparent because of his refusal to meet the objections to his doctrine. He admits that it can be doubted but calls it folly to do so. It is folly, presumably, because we have to act upon the assumption of the external world. Its truth is pragmatic. But the world that concerns us as practical beings is the common-sense external world, or the world of ideas from sensation according to Locke. Nobody doubts *this* external world. Locke's ugly mathematical realm, steeped in infinite darkness and silence, more gruesome and abominable than the *City of Dreadful Night*, *this* is the world that is of no practical importance and whose existence may be doubted.

*IV. xi. 10.

In regard to sense experience Locke says, "If any one say, a dream may do the same thing, and all these ideas may be produced without any external objects; he may please to dream that I make him this answer: 1. That it is no great matter, whether I remove this scruple or no: where all is but dream, reasoning and arguments are of no use, truth and knowledge nothing. 2. That I believe he will allow very manifest difference between dreaming of being in the fire, and being actually in it."† The supposition that our ideas may not have an external cause, is admitted by Locke to be a possible and therefore a rational supposition. To call this a dream is thus merely figurative. Add to this Locke's admission that the way in which an external object can cause an idea in us is incomprehensible, and the obvious conclusion that all ideas are ideas from reflection, i. e., caused by the mind acting upon itself, it does not appear to be irrational to make such a supposition.

†IV. 11. 14.

40. CONCLUSION. This study of Locke's theory of knowledge is therefore an argument for the organic unity of experience. According to Locke the world of knowledge is distinct and separate from reality. This doctrine of two worlds has been attacked at all points. The reasons for choosing it have been sought for and shown to be insufficient. The rationalistic lumber Locke has piled upon this foundation has been examined and has been found confusing, unnecessary ad contradictory. At every turn, in contradistinction to Locke's dualism, the adequacy of "organic experientialism," as Dr. J. A. Leighton calls it, has been pointed out. Electrons and stars, knowledge and facts, thoughts and reality, all belong to one world of experience. There are no isolated atoms, independent facts, irreducible pluralisms, or absolute insulations: this has been the contention. The universe is not pluralistic but organic. Locke's *Essay* in a large part is in harmony with organic experientialism. This harmony has been shown at length. Locke beheld the truth from time to time between rifts in his rationalistic fog, but for the most part he groped and stumbled.

The obvious loose and incoherent style of this study will be seen after a consideration of these concluding remarks, to be a superficial appearance due to the Socratic procedure.

## AUTOBIOGRAPHY

I, Raymond Gregory, was born near New Antioch, Ohio, October 1, 1879. I received my early education in a country school. In 1897, I entered the High School at New Vienna, Ohio, and completed the course in 1900. In January, 1910, I entered Wilmington College, and in June, 1912, I received the degree of Bachelor of Arts. The following school year I attended Haverford College, and received the degree of Bachelor of Arts. The next year I went to Harvard University and received the degree of Master of Arts. In September, 1915, I entered the graduate school of the Ohio State University, and continued in residence until June, 1917.

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