1b. The intentions of the mind: ideas and images as natural signs

8 ARISTOTLE: Interpretation, CH I [16a4-9] 25a / Soul, BK III, CH 8 664b-d / Memory and Reminiscence, CH I [450a25-451a19] 691a-692b

17 PLOTINUS: First Ennead, TR II, CH 3, 8a

18 AUGUSTINE: Christian Doctrine, BK I, CH 13, 627d

19 AQUINAS: Summa Theologica, PART I, Q 13, A 1, ANS 62c-63c; A 4, 65c-66b; Q 14, A 1, ANS and REP 3 75d-76c; A 2, ANS and REP 2-3 76d-77d; Q 27, A 1, ANS 153b-154b; A 2, ANS and REP 2 154c-155b; A 3, ANS 155c-156a; A 4, ANS and REP 2 156b-d; Q 34, A 1, 185b-187b; Q 37, A 1, ANS 197c-199a; Q 107, A 1, 549b-550b; PART I-II, Q 22, A 2, ANS 721c-722c

20 AQUINAS: Summa Theologica, PART I-II, Q 93, A I, REP 2 215b,d-216c

31 DESCARTES: Meditations, III 81d-89a passim / Objections and Replies, DEF III-IV 130b; AXIOM VI 132a; PROP II 132c

31 SPINOZA: Ethics, PART II, DEF 3 373b; PROP 5 374c-d

35 LOCKE: Human Understanding, BK II, CH XXX, SECT 2 238b-c; CH XXXII, SECT 8 244d; SECT 14-16 245c-246b; BK IV, CH II, SECT 14 312b-d; CH XXI, SECT 4 395a,c

35 BERKELEY: Human Knowledge, SECT 15 415d-416a; SECT 43-44 420d-421a; SECT 65-66 425d-426a; SECT 145-154 441d-444b passim, esp SECT 148 442b-d

53 JAMES: Psychology, 161a-176a esp 164a-165b, 166a-b, 168b-169a, 175a-176a; 299a-311a esp 300a-301a, 307a-308a, 310b-311a; 313a; 411a; 478a-b; 502a-503a; 553b-558b esp 555a-b, 558b-561 b [fn 2]; 573b-574a; 606b-610b esp 608a-609a; 620b-621a; 664b-665b

8 ARISTOTLE: *Interpretation*, CH I [16ª4-9] 25a / *Soul*, BK III, CH 8 664b-d / *Memory and Reminiscence*, CH I [450ª25-451ª19] 691a-692b

Interpretation, CH I [16ª4-9] 25a

Spoken words are the symbols of mental experience and written words are the symbols of spoken words. Just as all men have not the same writing, so all men have not the same
speech sounds, but the mental experiences, which these directly symbolize, are the same
for all, as also are those things of which our experiences are the images. This matter has, however, been discussed in my treatise about the soul, for it belongs to an investigation distinct from that which lies before us.

Soul, BK III, CH 8 664b-d

Let us now summarize our results about soul, and repeat that the soul is in a way all existing things; for existing things are either sensible or thinkable, and knowledge is in a way what is knowable, and sensation is in a way what is sensible: in *what* way we must inquire.

Knowledge and sensation are divided to correspond with the realities, potential knowledge and sensation answering to potentialities, actual knowledge and sensation to actualities. Within the soul the faculties of knowledge and sensation are potentially these objects, the one what is knowable, the other what is sensible. They must be either the things themselves or their forms. The former alternative is of course impossible: it is not the stone which is present in the soul but its form.

432ª It follows that the soul is analogous to the hand; for as the hand is a tool of tools, so the mind is the form of forms and sense the form of sensible things.

Since according to common agreement there is nothing outside and separate in existence from sensible spatial magnitudes, the objects of thought are in the sensible forms, viz. both the abstract objects and all the states and affections of sensible things. Hence (1) no one can learn or understand anything in the absence of sense, and (2) when the mind is actively aware of anything is necessarily aware of it along with an image; for images are like sensuous contents except in that they contain no matter. Imagination is different from assertion and denial; for what is true or false involves a synthesis of concepts. In what will the primary concepts differ from images? Must we not say that neither these nor even our other concepts are images, though they necessarily involve them?

Memory and Reminiscence, CH I [450^{a}25-451^{a}19] 691a-692b

One might ask how it is possible that though the affection [the presentation] alone is present, and the [related] fact absent, the latter - that which is not present - is remembered. [This question arises], because it is clear that we must conceive that which is generated through sense-perception in the sentient soul, and in the part of the body which is its seat, - viz. that affection the state whereof we call memory - to be some such thing as a picture. The process of movement [sensory stimulation] involved in the act of impression of the percept, just as persons do who make an **450**^{b} impression with a seal. This explains why, in those who are strongly moved owing to passion, or time of life, no mnemonic impression is formed; just as no impression would be formed if the movement of the seal were to impinge on running water; while there are others in whom, owing to the receiving surface being frayed, as happens to [the stucco on] old [chamber] walls, or owing to the hardness of the receiving surface, the requisite impression is not implanted at all. Hence both very young and very old persons are defective in memory; they are in state of flux, the former because of their growth, the latter, owing to their decay. In like manner, also, both those who are too quick and those who are too slow have bad memories. The former are too soft, the latter too hard [in the texture of their receiving organs], so that in the case of the former the presented image [though imprinted] does not remain in the soul, while on the latter it is not imprinted at all.

But then, if this truly describes what happens in the genesis of memory, [the question stated above arises:] when one remembers, is it this impressed affection that he remembers, or is it the objective thing from which this was derived? If the former, it would follow that we remember nothing which is absent; if the latter, how is it possible that, though perceiving directly only the impression, we remember that absent thing which we do not perceive? Granted that there is in us something like an impression or picture, why should the perception of the mere impression be memory of something else, instead of being related to this impression alone? For when one actually remembers, this impression is what he contemplates, and this is what he perceives. How then does he remember what is not present? One might as well suppose it possible also to see or hear that which is not present. In reply, we suggest that this very thing is quite conceivable, nay, actually occurs in experience. A picture painted on a panel is at once a picture and a likeness: that is, while one and the same, it is both of these, although the 'being' of both is not the same, and one may contemplate it either as a picture, or as a likeness. Just in the same way we have to conceive that the mnemonic presentation within us is something which by itself is merely an object of contemplation, while, in relation stamps to something else, it is also a presentation of that other

thing. In so far as it is regarded in itself, it is only an object of contemplation, or a presentation; but when considered as relative to something else, e.g. as its likeness, it is also a mnemonic token. Hence, whenever the residual sensory process implied by it is actualized in consciousness, if the soul perceives this in so far as it is something absolute, it appears to occur as a mere thought or presentation; but if the soul perceives it qua related to something else, then, - just as when one contemplates the painting in the picture as being a likeness, and without having [at the moment] seen the actual Koriskos, and in that case the experience **451**[a] involved in this contemplation of it [as relative] is different from what one has when he contemplates it simply as a painted figure - [so in the case of memory we have the analogous difference, for], of the objects in the soul, the one [the unrelated object] presents itself simply as a thought, but the other [the related objects], just because, as in the painting, it is a likeness, presents itself as a mnemonic token.

We can now understand why it is that sometimes, when we have such process, based on some former act of perception, occurring in the soul, we do not know whether this really implies our having had perceptions corresponding to them, and we doubt whether the case is or is not one of memory. But occasionally it happens that [while thus doubting] we get a sudden idea and recollect that we heard or saw something formerly. This [occurrence of the 'sudden idea'] happens whenever, from contemplating a mental object as absolute, one changes his point of view, and regards it as relative to something else.

The opposite [sc. to the case of those who at first do not recognize their phantasms as mnemonic] also occurs, as happened in the cases of Antipheron of Oreus and others suffering from mental derangement; for they were accustomed to speak of their mere phantasms as facts of their past experience, and as if remembering them. This takes place whenever one contemplates what is not a likeness as if it were a likeness.

Mnemonic exercises aim at preserving one's memory of something by repeatedly reminding him of it; which implies nothing else [on the learner's part] than the frequent contemplation of something [viz. the 'mnemonic', whatever it may be] as a likeness, and not as out of relation.

As regards the question, therefore, what memory or remembering is, it has now been shown that it is the state of a presentation, related as a likeness to that of which it is a presentation; and as to the question of which of the faculties within us memory is a function, [it has been shown] that it is a function of the primary faculty of sense-perception, i.e. of that faculty whereby we perceive time.

17 PLOTINUS: *First Ennead*, TR II, CH 3, 8a

But would not this make virtue a state of the Divine also?
No: the Divine has no states; the state is in the Soul. The Act of Intellection in the Soul is not the same as in the Divine: of things in the Supreme, Soul grasps some after a mode of its own, some not at all.
Then yet again, the one word Intellection covers two distinct Acts?
Rather there is primal Intellection and there is Intellection deriving from the Primal and of other scope.
As speech is the echo of the thought in the Soul, so thought in the Soul is an echo from elsewhere: that is to say, as the uttered thought is an image of the soul-thought, so the soul-thought images a thought above itself and is the interpreter of the higher sphere.
Virtue, in the same way, is a thing of the Soul: it does not belong to the Intellectual-Principle or to the Transcendence.

18 AUGUSTINE: *Christian Doctrine*, BK I, CH 13, 627d

Chap. 13. *The word was made flesh*
In what way did He come but this, "The Word was made flesh, and dwelt among us"?[1] Just as when we speak, in order that what we have in or minds may enter through the ear into the mind of the hearer, the word which we have in our hearts becomes an outward sound and is called speech; and yet our thought does not lose itself in the sound, but remains complete in itself, and takes the form of speech without being modified in its own nature by the change: so the Divine Word, though suffering no change of nature, yet became flesh, that He might dwell among us.

19 AQUINAS: *Summa Theologica*, PART I, Q 13, A 1, ANS 62c-63c; A 4, 65c-66b; Q 14, A 1, ANS and REP 3 75d-76c; A 2, ANS and REP 2-3 76d-77d; Q 27, A 1, ANS 153b-154b; A 2, ANS and REP 2 154c-155b; A 3, ANS 155c-156a; A 4, ANS and REP 2 156b-d; Q 34, A 1, 185b-187b; Q 37, A 1, ANS 197c-199a; Q 107, A 1, 549b-550b; PART I-II, Q 22, A 2, ANS 721c-722c

Part 1, Q 13, A 1, ANS 62c-63c
Article 1. *Whether Any Name Is Suitable to God?*
We proceed thus to the First Article: It seems that no name is suitable to God.

[1] John, 1. 14.

Objection 1. For Dionysius says (*Div. Nom. i*)[2] that, "Of Him there is neither name, nor can one be found of Him"; and it is written: "*What is His name, and what is the name if His Son, if thou knowest?*" (Prov. 30. 4).
Obj. 2. Further, every name is either abstract or concrete. But concrete names do not belong to God, since He is simple, nor do abstract names belong to Him, since they do not signify any perfect subsisting thing. Therefore no name can be said of God.
Obj. 3. Further, nouns are taken to signify substance with quality; verbs and participles signify substance with time; pronouns the same with demonstration or relation. But none of these can be applied to God, for He has no quality, nor accident, nor time; moreover, He cannot be felt, so as to be pointed out; nor can He be described by relation, since relations serve to recall a thing mentioned before by nouns, participles, or demonstrative pronouns. Therefore God cannot in any way be named by us.
On the contrary, It is written (Exod. 15. 3): "*The Lord is a man of war, Almighty is His name*".
I answer that, Since according to the Philosopher,[3] words are signs of ideas, and ideas the likeness of things, it is evident that words relate to the meaning of things signified through the medium of the intellectual conception. It follows therefore that we can give a name to anything in as far as it can be known by our intellect. New it was shown above (Q. XII, AA. 11, 12) that in this life we cannot see the essence of God; but we know God from creatures as their principle, and also by way of excellence and remotion. In this way therefore He can be named by us from creatures,, yet not so that the name which signifies Kim expresses the divine essence in itself, as for instance the name "man" express by its meaning the essence of man by declaring his essence. For the notion expressed by the name is the definition.
Reply Obj. 1. The reason why God has no name, or is said to be above being named, is because His essence is above all that we understand about God and signify in word.
Reply Obj. 1. Because we know and name God from creatures, the names we attribute to God signify what belongs to material creatures, of which the knowledge is natural to us as we have said before (Q. XII, A. 4). And because in creatures of this kind what is perfect and subsistent is composite, whereas their form is not a complete subsisting thing, but rather is that whereby a thing is, hence it follows that all names used by us to signify a complete subsisting thing must have a concrete meaning according as they belong to composite things. But names given to signify simple forms signify a thing not as subsisting, but as that by which a thing is; as, for instance, whiteness signifies that by which a thing is white. And as God is simple,

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[2] Sect. 5 (PG 3, 593).
[3] Interpretation, 1 (16^a3).

and subsisting, we attribute to Him abstract names to signify His simplicity, and concrete names to signify His subsistence and perfection, although both these kinds of names fail to express His mode of being, since our intellect does not know Him in this life as He is.

Reply Obj. 1. To signify substance with quality is to signify the suppositum with a nature or determined form in which it subsists. Hence, as some things are said of God in a concrete sense to signify His subsistence and perfection, so likewise nouns are applied to God signifying substance with quality. Further, verbs and participles which signify time are applied to Him because His eternity includes all time. For just as we can apprehend and signify simple subsistences only by way of composite things, so we can understand and express simple eternity only by way of temporal things, because our intellect has a natural affinity to composite and temporal things. But demonstrative pronouns are applied to God as pointing out what is understood, not what is sensed. For we can only describe Him as far as we understand Him. Thus, according as nouns, participles and demonstrative pronouns are applicable to God, so far can He be signified by relative pronouns.

Part 1, Q13, A 4, 65c-66b

Article 4. *Whether Names Applied to God Are Synonymous?*

We proceed thus to the Fourth Article: It seems that these names applied to God are synonymous names.

Objection 1. For synonymous names are those which mean exactly the same. But these names applied to God mean entirely the same thing in God; for the goodness of God is His essence, and likewise it is His wisdom. Therefore these names are entirely synonymous.

Obj. 2. Further, if it be said these names signify one and the same thing in reality, but differ in idea, it can be objected that an idea to which no reality corresponds is an empty idea. Therefore if these ideas are many, and the thing is one. it seems also that these ideas are ideas to no purpose.

Obj. 3. Further, a thing which is one in reality and in idea, is more one than what is one in reality and many in idea. But God is supremely one. Therefore it seems that He is not one in reality and many in idea, and thus the names applied to God do not signify different ideas: and thus they are synonymous.

On the contrary, All synonyms united with each other are redundant, as when we say, “vesture clothing.” Therefore if all names applied to God are synonymous, we cannot properly say “good God,” or the like, and yet it is written, “*O most mighty, great and powerful, the Lord of hosts is Thy name*” (Jer. 32. 18).

I answer that, These names spoken of God are not synonymous. This would be easy to understand if we said that these names are used to remove or

to express the relation of cause to creatures; for thus it would follow that there are different ideas as regards the diverse thingdenied of God. or as regards diverse effects connoted. But even according to what was said above (A. 2), that these names dignify the divine substance, although in an imperfect manner, it is also clear from what has been said (AA. 1, 2) that they have diverse meanings. For the notion signified by the name is the conception in the intellect of the thing signified by the name. But our intellect, since it knows God from creatures, in order to understand God, forms conceptions proportional to the perfections flowing from God to creatures, which perfections pre-exist in God unitedly and simply, while in creatures they are received divided and multiplied. As, therefore, to the different perfections of creatures there corresponds one simple principle represented by different perfections of creatures in a various and manifold manner, so also to the various and multiplied conceptions of our intellect there corresponds one altogether simple principle, according to these conceptions. Therefore, although the names applied to God signify one thing, still because they signify that thing under many and different aspects they are not synonymous.

Thus appears the solution of the First Objection, since synonymous terms signify one thing under one aspect; for words which signify different aspects of one thing, do not signify primarily and absolutely one thing, because the term only signifies the thing through the medium of the intellectual conception, as was said above.

Reply Obj. 2. The many aspects of these names are not empty and worthless, for there corresponds to all of them one simple reality represented by them in a manifold and imperfect manner.

Reply Obj. 3. The perfect unity of God requires that what are manifold and divided in others should exist in Him simply and unitedly. Thus it comes about that He is one in reality, and yet many in idea, because our intellect apprehends Him in a manifold manner, just as things represent Him in a manifold way.

Part 1, Q 14, A 1, ANS and REP 3 75d-76c

Article 1. *Whether There Is Knowledge in God?*

We proceed thus to the First Article: It seems that there is not knowledge (scientia) in God.

Objection 1. For knowledge is a habit, and habit does not belong to God. since it is the mean between potency and act. Therefore knowledge is not in God.

Obj. 2. Further, since science is about conclusions, it is a kind of knowledge caused by something else; namely, by the knowledge of principles. But nothing is caused in God. Therefore science is not in God.

Obj. 3. Further, all knowledge is universal, or particular. But in God there is no universal nor particular)Q. XIII, A. 9, ANS. 2). Therefore in God there is not knowledge.

On the contrary, The Apostle says, "*O the depth of the riches of the wisdom and of the knowledge of God*" (Rom, 11.33).

I answer that, In God there exists the most perfect knowledge. To prove this, we must note that knowing beings are distinguished from non-knowing beings in that the latter possess only their own form, while the knowing being is naturally adapted to have also the form of some other thing; for the species of the thing known is in the knower. Hence manifest that the nature of a non-knowing thing is more contracted and limited, while the nature of knowing things has a greater amplitude and extension; therefore the Philosopher says[4] that "the soul is in a certain way all things." Now the contraction of the form comes from the matter. Hence, as we have said above (Q. VII, A. 1, 2) forms according as they are the more immaterial, approach more nearly to a kind of infinity. Therefore it is clear that the immateriality of a thing is the reason why it is cognitive, and the mode of knowledge is according to the mode of immateriality. Hence, it is said in the *Soul*[5] that plants do not know because of their materiality. But sense is cognitive because it can receive species without matter, and the intellect is still further cognitive, because it is more "separated from matter and unmixed," as said in the *Soul*.[6] Since therefore God is in the highest degree of immateriality, as stated above (Q. VII, A. 1), it follows that He occupies the highest place in knowledge.

Reply Obj. 1. Because perfections flowing from God to creatures exist in a higher state in God Himself (Q. IV, A. 2), whenever a name taken from any created perfection is attributed to God, there must be separated from its signification anything that belongs to that imperfect mode proper to creatures. Hence knowledge is not a quality in God, nor a habit, but substance and pure act.

Reply Obj. 2. Whatever is divided and multiplied in creatures exists in God simply and unitedly (Q. XIII, A. 4). Now man has different kinds of knowledge, according to the different things known. He has understanding as regards the knowledge of principles; he has science as regards knowledge of conclusions; he has wisdom, according as he knows the highest cause; he has counsel or prudence, according as he knows what is to be done. But God knows all these by one simple act of knowledge, as will be shown (A. 7). Hence the simple knowledge of God can be named by all these names, in such a way, however, that there must be removed from each of them, so far as they enter into the divine predication, everything

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[4] Soul, III, 8 ($431^{b}21$).
[5] II, 12 ($424^{a}32$).
[6] Aristotle, III, 4 ($429^{a}18$; $^{b}5$).

that savours of imperfection; and everything that expresses perfection is to be retained in them. Hence, it is said, "*With Him is wisdom and strength, He hath counsel and understanding*" (Job 12.13).

Reply Obj. 3. Knowledge is according to the mode of the one who knows, for the thing known is in the knower according to the mode of the knower. Now since the mode of the divine essence is higher than that of creatures, divine knowledge does not exist in God after the mode of created knowledge, so as to be universal or particular, or habitual, or in potency, or existing according to any such mode.

Part 1, Q 14, A 2, ANS and REP 2-3 76d-77d

Article 2. *Whether God Understands Himself?*

We proceed thus to the Second Article: It seems that God does not understand Himself.

Objection 1. For it is said by the Philosopher,[7] "Every knower who knows his own essence, returns completely to his own essence." But God does not go out from His own essence, nor is He moved in any way; thus He cannot return to His own essence. Therefore He does not know His own essence.

Obj. 2. Further, to understand is in a certain way to suffer and to be moved, as the Philosopher says,[8] and knowledge also is a kind of assimilation to the object known; and the thing known is the perfection of the knower. But nothing is moved, or suffers, or is made perfect by itself, "nor," as Hilary says (*De Trin.* iii),[9] "is a thing its own likeness." Therefore God does not understand Himself.

Obj. 3. Further, we are like God chiefly in our intellect, because we are the image of God in our mind, as Augustine says (*Gen. ad. lit.* vi).[10] But our intellect understands itself, only as it understands other things, as is said in the *Soul*.[11] Therefore God does not understand Himself, unless perhaps by understanding other things.

On the contrary, It is written: "*The things that are of God no man knoweth, but the Spirit of God*" (I Cor. 2. 11).

I answer that, God understands Himself through Himself. In proof of this it must be known that although in operations which pass to an external effect the object of the operation, which is taken as the term, is something outside the operator, nevertheless in operations that remain in the operator, the object signified as the term of operation, is in the operator; and according as it is in the operator, the operation is actual. Hence the Philosopher says,[12] that the sensible in act is intellect in act. For the reason

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[7] *Lib. de Causis*, 14 (BA 177.6).
[8] *Soul*, III, 4, 7 ($429^{b}24$; $431^{a}6$).
[9] Chap. 23 (PL 10,92).
[10] Chap 12 (PL 34, 347).
[11] Aristotle, III, 4 ($430^{a}2$).
[12] *Soul,* III, 2, 4 ($426^{a}16$; $430^{a}3$).

why we actually feel or know a thing is because our intellect or sense is actually informed by the sensible or intelligible species. And because of this only, it follows that sense or intellect is distinct from the sensible or intelligible object, since both are in potency.

Since therefore God has nothing in Him of potentiality, but is pure act. His intellect and the thing understood are the same, so that He neither lacks the intelligible species, as is the case with our intellect when it understands in potency; nor is the intelligible species other than the substance of the divine intellect, as happens in our intellect when it understands actually; but the intelligible species itself is the divine intellect itself, and thus God understands Himself through Himself.

Reply Obj. 1. Return to its own essence means only that a thing subsists in itself. For in so far as the form perfects the matter by giving it being, it is in a certain way diffused in it; and it returns to itself in so far as it has being in itself. Therefore those knowing powers which are not subsisting but are the acts of organs, do not know themselves, as is clear in each of the senses; but those knowing powers which are self-subsisting, know themselves; hence it is said in *De Causis*[13] that, “whoever knows his essence returns to it." Now it supremely belongs to God to be self-subsisting. Hence according to this mode of speaking, He supremely returns to His own essence, and knows Himself.

Reply Obj. 2. To be moved and to suffer are taken equivocally, according as to understand is described as a kind of movement or passion. as stated in the treatise in the *Soul*.[14] For to understand is not a movement that is an act of something imperfect passing from one thing to another, but it is an act, existing in the agent itself, of something perfect. Likewise that the intellect is perfected by the intelligible thing, or is assimilated to it. belongs to an intellect which is something in potency; because the fact that it is in potency makes it differ from the intelligible object and assimilates it to it through the intelligible species, which is the likeness of the thing understood, and makes it to be perfected by it. as potency is perfected by act. On the other hand the divine intellect, which is no way in potency, is not perfected by the intelligible object, nor is it assimilated to it, but is its own perfection, and its own intelligible object.

Reply Obj. 2. Natural being does not belong to primary matter, which is a potentiality, unless it is reduced to act by a form. Now our possible intellect has the same relation to intelligible things as primary matter has to natural things; for it is in potency as regards intelligible things just as primary matter is to natural things. Hence our possible intellect can be exercised concerning intelligible things only so far as it is perfected by the intelligible species of something; and in that way it understands itself by an intelligible

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[13] Sect. 14 (BA 177.6).

[14] III, 4,7, ($429^{b}24$; $431^{a}6$).

species as it understands other things; for it is manifest that by knowing the intelligible object it understands also its own act of understanding, and by this act knows the intellectual power. But God is a pure act in the order of existing things as well as in the order of intelligible things: therefore He understands Himself through Himself.

Part 1, Q 27, A 1, ANS 153b-154b

Article 1. *Whether There is Procession in God?*

We proceed thus to the First Article: It would seem that there cannot be any procession in God.

Objection 1. For procession signifies outward movement. But in God there is nothing mobile, nor anything extraneous. Therefore neither is there procession in God.

Obj. 2. Further, everything which proceeds differs from that whence it proceeds. But in God there is no diversity; but supreme simplicity. Therefore in God there is no procession.

Obj. 3. Further, to proceed from another seems to be against the nature of the first principle. But God is the first principle, as shown above (Q. II, A. 3). Therefore in God there is no procession.

On the contrary, Our Lord says, "*From God I proceeded*" (John 8:42).

I answer that, Divine Scripture uses, in relation to God, names which signify procession. This procession has been differently understood. Some have understood it in the sense of an effect, proceeding from its cause; so Arius took it,[15] saying that the Son proceeds from the Father as His primary creature, and that the Holy Ghost proceeds from the Father and the Son as the creature of both. In this sense neither the Son nor the Holy Ghost would be true God: and this is contrary to what is said of the Son, "*That . . . we may be in His true Son. This is true God*" (I John 5:20). Of the Holy Ghost it is also said, "*Know you not that your members are the temple of the Holy Ghost?*" (I Cor. 6:19). Now, to have a temple is God's prerogative.

Others take this procession to mean the cause proceeding to the effect, as moving it, or impressing its own likeness on it; in which sense it was understood by Sabellius,[16] who said that God the Father is called Son in assuming flesh from the Virgin, and that the Father also is called Holy Ghost in sanctifying the rational creature, and moving it to life. The words of the Lord contradict such a meaning, when He speaks of Himself, "*The Son cannot of Himself do anything*" (John 5:19); while many other passages show the same, whereby we know that the Father is not the Son.

Careful examination shows that both of these opinions take procession as meaning an outward act; hence neither of them affirms procession as

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[15] See Augustine, *De Haeres,* 49 (PL 42, 39).

[16] *Ibid*., sect. 41 (42, 32).

existing in God Himself; whereas, since procession always supposes action, and as there is an outward procession corresponding to the act tending to external matter, so there must be an inward procession corresponding to the act remaining within the agent. This applies most conspicuously to the intellect, the action of which remains in the intelligent agent. For whenever we understand, by the very fact of understanding there proceeds something within us, which is a conception of the object understood, a conception issuing from our intellectual power and proceeding from our knowledge of that object. This conception is signified by the spoken word; and it is called the word of the heart signified by the word of the voice.

As God is above all things, we should understand what is said of God, not according to the mode of the lowest creatures, namely bodies, but from the similitude of the highest creatures, the intellectual substances; while even the similitudes derived from these fall short in the representation of divine objects. Procession, therefore, is not to be understood from what it is in bodies, either according to local movement or by way of a cause proceeding forth to its exterior effect, as, for instance, like heat from the agent to the thing made hot. Rather it is to be understood by way of an intelligible emanation, for example, of the intelligible word which proceeds from the speaker, yet remains in him. In that sense the Catholic Faith understands procession as existing in God.

Reply Obj. 1. This objection comes from the idea of procession in the sense of local motion, or of an action tending to external matter, or to an exterior effect; which kind of procession does not exist in God, as we have explained.

Reply Obj. 2. Whatever proceeds by way of outward procession is necessarily distinct from the source whence it proceeds, whereas, whatever proceeds within by an intelligible procession is not necessarily distinct; indeed, the more perfectly it proceeds, the more closely it is one with the source whence it proceeds. For it is clear that the more a thing is understood, the more closely is the intellectual conception joined and united to the intelligent agent; since the intellect by the very act of understanding is made one with the object understood. Thus, as the divine intelligence is the very supreme perfection of God (Q. XIV, A. 1), the divine Word is of necessity perfectly one with the source whence He proceeds, without any kind of diversity.

Reply Obj. 3. To proceed from a principle, so as to be something outside and distinct from that principle, is irreconcilable with the idea of a first principle; whereas an intimate and uniform procession by way of an intelligible act is included in the idea of a first principle. For when we call the builder the principle of the house, in the idea of such a principle is included that of his art; and it would be included in the idea of the first principle were the builder the first principle of the house. God, Who is the

first principle of all things, may be compared to things created as the architect is to things designed.

Part 1, Q27, A 2, ANS and REP 2 154c-155b

Article 2. *Whether Any Procession in God Can Be Called Generation?*

We proceed thus to the Second Article: It would seem that the procession which is in God cannot be called generation.

Objection 1. For generation is change from non-existence to existence, and is opposed to corruption; while matter is the subject of both. Nothing of all this belongs to God. Therefore generation cannot exist in God.

Obj. 2. Further, procession exists in God, according to an intelligible mode, as above explained (A. 1). But such a process is not called generation in us; therefore neither is it to be so called in God.

Obj. 3. Further, anything that is generated derives existence from its generator. Therefore such existence is a derived existence. But no derived existence can be a self-subsistence. Therefore, since the divine existence is self-subsisting (Q. III, A. 4), it follows that no generated existence can be the divine existence. Therefore there is no generation in God.

On the contrary, It is said (Ps. 2:7): "*This day have I begotten Thee.*"

I answer that, The procession of the Word in God is called generation. In proof whereof we must observe that generation has a twofold meaning: one common to everything subject to generation and corruption; in which sense generation is nothing but change from non-existence to existence. In another sense it is proper and belongs to living things; in which sense it signifies the origin of a living being from a conjoined living principle; and this is properly called birth. Not everything of that kind, however, is called begotten; but, strictly speaking, only what proceeds by way of similitude. Hence a hair has not the aspect of generation and sonship, but only that has which proceeds by way of a similitude. Nor will any likeness suffice; for a worm which is generated from animals has not the aspect of generation and sonship, although it has a generic similitude; for this kind of generation requires that there should be a procession by way of similitude in the same specific nature; as a man proceeds from a man, and a horse from a horse. So in living things, which proceed from potential to actual life, such as men and animals, generation includes both these kinds of generation. But if there is a being whose life does not proceed from potentiality to act, procession (if found in such a being) excludes entirely the first kind of generation; whereas it may have that kind of generation which belongs to living things.

So in this manner the procession of the Word in God is generation; for He proceeds by way of intelligible action, which is a vital operation: from a conjoined principle (as above described); by way of likeness because the conception of the intellect is a likeness of the thing understood; and exists

in the same nature, because in God the act of understanding and His being are the same, as shown above (Q. XIV, A. 4). Hence the procession of the Word in God is called generation, and the Word Himself proceeding is called the Son.

Reply Obj. 1. This objection is based on the idea of generation in the first sense, importing the issuing forth from potentiality to act; in which sense it is not found in God.

Reply Obj. 2. The act of human understanding in ourselves is not the substance itself of the intellect; hence the word which proceeds within us by intelligible operation is not of the same nature as the source whence it proceeds; so the idea of generation cannot be properly and fully applied to it. But the divine act of intelligence is the very substance itself of the one who understands (Q. XIV, A. 4). The Word proceeding therefore proceeds as subsisting in the same nature; and so is properly called begotten, and Son. Hence Scripture employs terms which denote generation of living things in order to signify the procession of the divine Wisdom, namely, conception and birth; as is declared in the person of the divine Wisdom, "*The depths were not as yet, and I was already conceived; before the hills, I was brought forth.*" (Prov. 8:24). In our way of understanding we use the word "conception" in order to signify that in the word of our intellect is found the likeness of the thing understood, although there be no identity of nature.

Reply Obj. 3. Not everything derived from another has existence in another subject; otherwise we could not say that the whole substance of created being comes from God, since there is no subject that could receive the whole substance. So, then, what is generated in God receives its existence from the generator, not as though that existence were received into matter or into a subject (which would conflict with the divine self-subsistence); but when we speak of His existence as received, we mean that He Who proceeds receives divine existence from another; not, however, as if He were other from the divine nature. For in the perfection itself of the divine existence are contained both the Word intelligibly proceeding and the principle of the Word, with whatever belongs to His perfection (Q. IV, A. 2).

Part 1, Q27, A 3, ANS 155c-156a

Article 3. *Whether Any Other Procession Exists in God Besides That of the Word?*

We proceed thus to the Third Article: It would seem that no other procession exists on God besides the generation of the Word.

Objection 1. Because, for whatever reason we admit another procession, we should be led to admit yet another, and so on to infinity, which cannot be. Therefore we must stop at the first, and hold that there exists only one procession in God.

Obj. 2. Further, every nature possesses but one mode of communication of that nature, because operations derive unity and diversity from their terms. But procession in God is only by way of communication of the divine nature. Therefore, as there is only one divine nature (Q. XI, A. 3), it follows that only one procession exists in God.

Obj. 3. Further, if any other procession but the intelligible procession of the Word existed in God, it could only be the procession of love, which is by the operation of the will. But such a procession is identified with the intelligible procession of the intellect, inasmuch as the will in God is the same as His intellect (Q. XIX, A. 1). Therefore in God there is no other procession but the procession of the Word.

On the contrary, The Holy Ghost proceeds from the Father (John 15:26); and He is distinct from the Son, according to the words, "*I will ask My Father, and He will give you another Paraclete*" (John 14:16). Therefore in God another procession exists besides the procession of the Word.

I answer that, There are two processions in God: the procession of the Word, and another.

In evidence whereof we must observe that procession exists in God, only according to an action which does not tend to anything external, but remains in the agent itself. Such an action in an intellectual nature is that of the intellect, and of the will. The procession of the Word is by way of an intelligible operation. The operation of the will within ourselves involves also another procession, that of love, whereby the object loved is in the lover; as, by the conception of the word, the object spoken of or understood is in the intelligent agent. Hence, besides the procession of the Word in God, there exists in Him another procession called the procession of love.

Reply Obj. 1. There is no need to go on to infinitude in the divine processions; for the procession which is accomplished within the agent in an intellectual nature terminates in the procession of the will.

Reply Obj. 2. All that exists in God, is God (Q. III, AA. 3, 4); whereas the same does not apply to others. Therefore the divine nature is communicated by every procession which is not outward, and this does not apply to other natures.

Reply Obj. 3. Though will and intellect are not diverse in God, nevertheless the nature of will and intellect requires the processions belonging to each of them to exist in a certain order. For the procession of love occurs in due order as regards the procession of the Word; since nothing can be loved by the will unless it is conceived in the intellect. So as there exists a certain order of the Word to the principle whence He proceeds, although in God the substance of the intellect and its concept are the same; so, although in God the will and the intellect are the same, still, inasmuch as love requires by its very nature that it proceed only from the concept of the intellect,

there is a distinction of order between the procession of love and the procession of the Word in God.

Part 1, Q27, A 4, ANS and REP 2 156b-d

Article 4. *Whether the Procession of Love in God Is Generation?*

We proceed thus to the Fourth Article: It would seem that the procession of love in God is generation.

Objection 1. For what proceeds by way of likeness of nature among living things is said to be generated and born. But what proceeds in God by way of love proceeds in the likeness of nature; otherwise it would be extraneous to the divine nature, and would be an external procession. Therefore what proceeds in God by way of love, proceeds as generated and born.

Obj. 2. Further, as likeness of the nature of the word, so does it belong to love. Hence it is said, that "*every beast loves its like*" (Ecclus. 13:19). Therefore if the Word is begotten and born by way of likeness, it seems becoming that love should proceed by way of generation.

Obj. 3. Further, what is not in any species is not in the genus. So if there is a procession of love in God, there ought to be some special name besides this common name of procession. But no other name is applicable but generation. Therefore the procession of love in God is generation.

On the contrary, Were this true, it would follow that the Holy Ghost Who proceeds as love, would proceed as begotten; which is against the statement of Athanasius:[17] "The Holy Ghost is from the Father and the Son, not made, nor begotten, but proceeding."

I answer that, The procession of love in God ought not to be called generation. In evidence whereof we must consider that the intellect and the will differ in this respect, that the intellect is made actual by the object understood residing according to its own likeness in the intellect; whereas the will is made actual, not by any similitude of the object willed within it, but by its having a certain inclination to the thing willed. Thus the procession of the intellect is by way of similitude, and is called generation, because every generator begets its own like; whereas the procession of the will is not by way of similitude, but rather by way of impulse and movement towards an object.

So what proceeds in God by way of love, does not proceed as begotten, or as son, but proceeds rather as spirit; which name expresses a certain vital movement and impulse, accordingly as anyone is described as moved or impelled by love to perform an action.

Reply Obj. 1. All that exists in God is one with the divine nature. Hence the proper notion of this or that procession, by which one procession is distinguished from another, cannot be on the part of this unity: but the

[17] Cf. The Creed "*Quicumque*" (MA II, 1345; DZ 39).

proper notion of this or that procession must be taken from the order of one procession to another; which order is derived from the nature of the will and intellect. Hence, each procession in God takes its name from the proper notion of will and intellect; the name being imposed to signify what its nature really is; and so it is that the Person proceeding as love receives the divine nature, but is not said to be born.

Reply Obj. 2. Likeness belongs in a different way to the word and to love. It belongs to the word as being the likeness of the object understood, as the thing generated is the likeness of the generator; but it belongs to love, not as though love itself were a likeness, but because likeness is the principle of loving. Thus it does not follow that love is begotten, but that the one begotten is the principle of love.

Reply Obj. 3. We can name God only from creatures (Q. XIII, A. 1). As in creatures generation is the only principle of communication of nature, procession in God has no proper or special name, except that of generation. Hence the procession which is not generation has remained without a special name; but it can be called spiration, as it is the procession of the Spirit.

Part 1, Q 34, A 1, 185b-187b

Article 1. *Whether Word in God Is a Personal Name?*

We proceed thus to the First Article: It would seem that Word in God is not a personal name.

Objection 1. For personal names are applied to God in a proper sense, as Father and Son. But "Word is applied to God metaphorically," as Origen says[18] on (John 1. 1), "*In the beginning was the Word*". Therefore Word is not a personal name in God.

Obj. 2. Further, according to Augustine (De Trin. ix, 10),[19] "The Word is knowledge with love;" and according to Anselm (Monol.),[20] "To speak is to the Supreme Spirit nothing but to see by thought." But knowledge and thought, and sight, are essential terms in God. Therefore Word is not a personal term in God.

Obj. 3. Further, it is essential to word to be spoken. But, according to Anselm (Monol. lix), as the Father is intelligent, the Son is intelligent, and the Holy Ghost is intelligent, so the Father speaks, the Son speaks, and the Holy Ghost speaks; and likewise, each one of them is spoken. Therefore, the name Word is used as an essential term in God, and not in a personal sense.

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[18] PG 14, 59.
[19] PL, 42, 969.
[20] Chap. 63 (PL 158, 208).

Obj. 4. Further, no divine person is made. But the Word of God is something made. For it is said, "Fire, hail, snow, ice, the storms which do His Word" (Ps. 148:8). Therefore the Word is not a personal name in God.

On the contrary, Augustine says (De Trin. vii, 2):[21] "As the Son is related to the Father, so also is the Word to Him Whose Word He is." But the Son is a personal name, since it is said relatively. Therefore so also is Word.

I answer that, The name of Word in God, if taken in its proper sense, is a personal name, and in no way anessential name.

To see how this is true, we must know that our own word taken in its proper sense has a threefold meaning; while in a fourth sense it is taken improperly or figuratively. The clearest and most common sense is when it is said of the word spoken by the voice; and this proceeds from an interior source as regards two things found in the exterior word--that is, the vocal sound itself, and the signification of the sound. For, according to the Philosopher,[22] vocal sound signifies the concept of the intellect. Again the vocal sound proceeds from the signification or the imagination, as stated in the book on the *Soul*[23]. The vocal sound, which has no signification cannot be called a word: hence the exterior vocal sound is called a word because it signifies the interior concept of the mind. Thus, therefore first and chiefly, the interior concept of the mind is called a word; secondarily, the vocal sound itself, signifying the interior concept, is so called; and thirdly, the imagination of the vocal sound is called a word. Damascene mentions these three kinds of words (De Fide Orth. i, 13),[24] saying that "word" is called "the natural movement of the intellect, whereby it is moved, and understands, and thinks, as light and splendor;" which is the first kind. "Again," he says, "the word is what is not pronounced by a vocal word, but is uttered in the heart;" which is the third kind. "Again," also, "the word is the angel"--that is, the messenger "of intelligence;" which is the second kind. Word is also used in a fourth way figuratively for that which is signified or effected by a word; thus we are wont to say, "this is the word I have said," or "which the king has commanded," alluding to some deed signified by the word either by way of assertion or of command.

Now word is taken strictly in God, as signifying the concept of the intellect. Hence Augustine says (De Trin. xv, 10):[25] "Whoever can understand the word, not only before it is sounded, but also before thought has clothed it with imaginary sound, can already see some likeness of that Word of Whom it is said: In the beginning was the Word." The concept itself of the heart has of its own nature to proceed from something other than itself--namely, from

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[21] PL 42, 936.
[22] *Interpretation*, I ($16^{a}3$).
[23] Aristotle, II, 8 ($420^{b}32$).
[24] PG 94, 857.
[25] PL 42, 1071.

the knowledge of the one conceiving. Hence "Word," according as we use the term strictly of God, signifies something proceeding from another; which belongs to the nature of personal terms in God, since the divine persons are distinguished by origin (Q. XXVII, Introd.; Q. XXXII, A. 3). Hence the term "Word," according as we use the term properly of God, is to be taken as said not essentially, but personally only.

Reply Obj. 1. The Arians, who sprang from Origen,[26] declared that the Son differed in substance from the Father. Hence, they endeavored to maintain that when the Son of God is called the Word, this is not to be understood in a strict sense; lest the idea of the Word proceeding should compel them to confess that the Son of God is of the same substance as the Father. For the interior word proceeds in such a manner from the one who pronounces it, as to remain within him. But supposing Word to be said metaphorically of God, we must still admit Word in its strict sense. For if a thing be called a word metaphorically, this can only be by reason of some manifestation; either it makes something manifest as a word, or it is manifested by a word. If manifested by a word, there must exist a word whereby it is manifested. If it is called a word because it exteriorly manifests, what it exteriorly manifests cannot be called word except in as far as it signifies the interior concept of the mind, which anyone may also manifest by exterior signs. Therefore, although Word may be sometimes said of God metaphorically, nevertheless we must also admit Word in the proper sense, and which is said personally.

Reply Obj. 2. Nothing belonging to the intellect can be applied to God personally, except word alone; for word alone signifies that which emanates from another. For what the intellect forms in its conception is the word. Now, the intellect itself, according as it is made actual by the intelligible species, is considered absolutely; likewise the act of understanding which is to the actual intellect what existence is to actual being; since the act of understanding does not signify an act going out from the intelligent agent, but an act remaining in the agent. Therefore when we say that word is knowledge, the term knowledge does not mean the act of a knowing intellect, or any one of its habits, but stands for what the intellect conceives by knowing. Hence also Augustine says (*De Trin.* vii, 2)[27] that the Word is "begotten wisdom;" for it is nothing but the concept of the Wise One; and in the same way It can be called "begotten knowledge." Thus can also be explained how "to speak" is in God "to see by thought," forasmuch as the Word is conceived by the gaze of the divine thought. Still the term "thought" does not properly apply to the Word of God. For Augustine says (*De Trin.* xv, 16):[28] "Therefore do we speak of the Word of God, and not of

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[26] *In Joann.,* II (PG 14, 109).
[27] PL 42, 936.
[28] PL 42, 1079.

the Thought of God, lest we believe that in God there is something unstable, now assuming the form of Word, now putting off that form and remaining latent and as it were formless." For thought consists properly in the search after the truth, and this has no place in God. But when the intellect attains to the form of truth, it does not think, but perfectly contemplates the truth. Hence Anselm (*loc. cit.*) takes "thought" in an improper sense for "contemplation."

Reply Obj. 3. As, properly speaking, Word in God is said personally, and not essentially, so likewise is to "speak." Hence, as the Word is not common to the Father, Son and Holy Ghost, so it is not true that the Father, Son, and Holy Ghost are one speaker. So Augustine says (*De Trin*. vii, 1):[29] "He who speaks in that co-eternal Word is understood as not alone in God, but as being with that very Word, without which, forsooth, He would not be speaking." On the other hand, "to be spoken" belongs to each Person, for not only is the word spoken, but also the thing understood or signified by the word. Therefore in this manner to one person alone in God does it belong to be spoken in the same way as a word is spoken; whereas in the way whereby a thing is spoken as being understood in the word, it belongs to each Person to be spoken. For the Father, by understanding Himself, the Son and the Holy Ghost, and all other things comprised in this knowledge, conceives the Word; so that thus the whole Trinity is "spoken" in the Word; and likewise also all creatures: as the intellect of a man by the word he conceives in the act of understanding a stone, speaks a stone. Anselm took the term "speak" improperly for the act of understanding; whereas they really differ from each other; for "to understand" means only the habitude of the intelligent agent to the thing understood, in which habitude no trace of origin is conveyed, but only a certain information of our intellect; forasmuch as our intellect is made actual by the form of the thing understood. In God, however, it means complete identity, because in God the intellect and the thing understood are altogether the same, as was proved above (Q. XIV, AA. 2, 4). Whereas to "speak" means chiefly the habitude to the word conceived; for "to speak" is nothing but to utter a word. But by means of the word it imports a habitude to the thing understood which in the word uttered is manifested to the one who understands. Thus, only the Person who utters the Word is "speaker" in God, although each Person understands and is understood, and consequently is spoken by the Word.

Reply Obj. 4. The term "word" is there taken figuratively, as the thing signified or effected by word is called word. For thus creatures are said to do the word of God, as executing any effect to which they are ordained by the word conceived of the divine wisdom; just as anyone is said to do the

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[29] PL 42, 933.

word of the king when he does the work to which he is appointed by the king's word.

Part 1, Q 37, A I, ANS 197c-199a

Article 1. *Whether "Love" is the Proper Name of the Holy Ghost?*

We proceed thus to the First Article: It would seem that Love is not the proper name of the Holy Ghost.

Objection 1. For Augustine says (*De Trin*. xv, 17)[30]: "As the Father, Son and Holy Ghost are called Wisdom, and are not three Wisdoms, but one; I know not why the Father, Son and Holy Ghost should not be called Charity, and all together one Charity." But no name which is predicated in the singular of each person and of all together, is a proper name of a person. Therefore this name, "Love," is not the proper name of the Holy Ghost.

Obj. 2. Further, the Holy Ghost is a subsisting person, but love is not used to signify a subsisting person, but rather an action passing from the lover to the beloved. Therefore Love is not the proper name of the Holy Ghost.

Obj. 3. Further, Love is the bond between lovers, for as Dionysius says (*Div. Nom.* iv):[31] "Love is a unitive force." But a bond is a medium between what it joins together, not something proceeding from them. Therefore, since the Holy Ghost proceeds from the Father and the Son, as was shown above (Q. XXXVI, A. 2), it seems that He is not the Love or bond of the Father and the Son.

Obj. 4. Further, Love belongs to every lover. But the Holy Ghost is a lover: therefore He has love. So if the Holy Ghost is Love, He must be love of love, and spirit from spirit; which is not admissible.

On the contrary, Gregory says (*Hom.* xxx, *in Pentecost.*):[32] "The Holy Ghost Himself is Love."

I answer that, The name Love in God can be taken essentially and personally. If taken personally it is the proper name of the Holy Ghost; as Word is the proper name of the Son.

To see this we must know that since as shown above (Q. XXVII, AA. 1, 3, 5), there are two processions in God, one by way of the intellect, which is the procession of the Word, and another by way of the will, which is the procession of Love; forasmuch as the former is the more known to us, we have been able to apply more suitable names to express our various considerations as regards that procession, but not as regards the procession of the will. Hence, we are obliged to employ circumlocution as regards the person Who proceeds, and the relations following from this procession which are called "procession" and "spiration," as stated above (Q.

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[30] PL 42, 1081.
[31] Sect. 15 (PG 3, 713).
[32] PL 76, 1220.

XXVIII, A. 4), and yet express the origin rather than the relation in the strict sense of the term.

Nevertheless we must consider them in respect of each procession simply. For as when a thing is understood by anyone, there results in the one who understands a conception of the object understood, which conception we call word; so when anyone loves an object, a certain impression results, so to speak, of the thing loved in the affection of the lover; by reason of which the object loved is said to be in the lover; as also the thing understood is in the one who understands; so that when anyone understands and loves himself he is in himself, not only by real identity, but also as the object understood is in the one who understands, and the thing loved is in the lover. As regards the intellect, however, words have been found to describe the mutual relation of the one who understands the object understood, as appears in the word "to understand"; and other words are used to express the procession of the intellectual conception--namely, "to speak," and "word." Hence in God, "to understand" is applied only to the essence; because it does not import relation to the Word that proceeds; whereas "Word" is said personally, because it signifies what proceeds; and the term "to speak" is a notional term as importing the relation of the principle of the Word to the Word Himself. On the other hand, on the part of the will, with the exception of the words "dilection" and "love," which express the relation of the lover to the object loved, there are no other terms in use, which express the relation of the impression or affection of the object loved, produced in the lover by fact that he loves--to the principle of that impression, or "*vice versa.*" And therefore, on account of the poverty of our vocabulary, we express these relations by the words "love" and "dilection": just as if we were to call the Word "intelligence conceived," or "wisdom begotten."

It follows that so far as love means only the relation of the lover to the object loved, "love" and "to love" are said of the essence, as "understanding" and "to understand"; but, on the other hand, so far as these words are used to express the relation to its principle, of what proceeds by way of love, and *"vice versa,"* so that by "love" is understood the "love proceeding," and by "to love" is understood "the spiration of the love proceeding," in that sense "love" is the name of the person and "to love" is a notional term, as "to speak" and "to beget."

Reply Obj. 1. Augustine is there speaking of charity as it means the divine essence, as was said above (here and Q. XXIV, A. 2, Ans. 4).

Reply Obj. 2. Although to understand, and to will, and to love signify actions passing on to their objects, nevertheless they are actions that remain in the agents, as stated above (Q. XIV, A. 2), yet in such a way that in the agent itself they import a certain relation to their object. Hence, love also in ourselves is something that abides in the lover, and the word of the heart is

something abiding in the speaker; yet with a relation to the thing expressed by word, or loved. But in God, in whom there is nothing accidental, there is more than this; because both Word and Love are subsistent. Therefore, when we say that the Holy Ghost is the Love of the Father for the Son, or for something else; we do not mean anything that passes into another, but only the relation of love to the beloved; as also in the Word is imported the relation of the Word to the thing expressed by the Word.

Reply Obj. 3. The Holy Ghost is said to be the bond of the Father and Son, inasmuch as He is Love; because, since the Father loves Himself and the Son with one Love, and conversely, there is expressed in the Holy Ghost, as Love, the relation of the Father to the Son, and conversely, as that of the lover to the beloved. But from the fact that the Father and the Son mutually love one another, it necessarily follows that this mutual Love, the Holy Ghost, proceeds from both. As regards origin, therefore, the Holy Ghost is not the medium, but the third person in the Trinity; whereas as regards the aforesaid relation He is the bond between the two persons, as proceeding from both.

Reply Obj. 4. As it does not belong to the Son, though He understands, to produce a word, for it belongs to Him to understand as the word proceeding; so in like manner, although the Holy Ghost loves, taking Love as an essential term, still it does not belong to Him to spirate love, which is to take love as a notional term; because He loves essentially as love proceeding; but not as the one whence love proceeds.

Part 1, Q 107, A 1 549b-550b

Article 1. *Whether One Angel Speaks to Another?*

We proceed thus to the First Article: It would seem that one agel does not speak to another.

Objection 1. For Gregory says (*Moral*. xviii)[33] that, in the state of the resurrection "each one's body will not hide his mind from his fellows." Much less, therefore, is one angel's mind hidden from another. But speech manifests to another what lies hidden in the mind. Therefore it is not necessary that one angel should speak to another.

Obj. 2. Further, speech is twofold; interior, whereby one speaks to oneself; and exterior, whereby one speaks to another. But exterior speech takes place by some sensible sign, as by voice, or gesture, or some bodily member, as the tongue, or the fingers, and this cannot apply to the angels. Therefore one angel does not speak to another.

Obj. 3. Further, Further, the speaker incites the hearer to listen to what he says. But it does not appear that one angel incites another to listen; for this

[33] Chap 48 (PL 76,84).

happens among us by some sensible sign. Therefore one angel does not speak to another.

On the contrary, The Apostle says (I Cor. 13:1): "*If I speak with the tongues of men and of angels.*"

I answer that, The angels speak in a certain way. But, as Gregory says (*Moral*. ii):[34] "It is fitting that our mind, rising above the properties of bodily speech, should be lifted to the sublime and unknown methods of interior speech."

To understand how one angel speaks to another, we must consider that, as we explained above (Q. LXXXII, A. 4) when treating of the actions and powers of the soul, the will moves the intellect to its operation. Now an intelligible object is present to the intellect in three ways; first, habitually, or in the memory, as Augustine says (*De Trin*. xiv, 6, 7).[35] secondly, as actually considered or conceived; thirdly, as related to something else. And it is clear that the intelligible object passes from the first to the second stage by the command of the will, and hence in the definition of habit these words occur, "which anyone uses when he wills."[36] So likewise the intelligible object passes from the second to the third stage by the will; for by the will the concept of the mind is ordered to something else, as, for instance, either to the performing of an action, or to being made known to another. Now when the mind turns itself to the actual consideration of any habitual knowledge, then a person speaks to himself; for the concept of the mind is called "the interior word." And by the fact that the concept of the angelic mind is ordered to be made known to another by the will of the angel himself, the concept of one angel is made known to another; and in this way one angel speaks to another; for to speak to another only means to make known the mental concept to another.

Reply Obj. 1. Our mental concept is hidden by a twofold obstacle. The first is in the will, which can retain the mental concept within, or can direct it externally. In this way God alone can see the mind of another, according to I Cor. 2:11: "*What man knoweth the things of a man, but the spirit of a man that is in him?*" The other obstacle whereby the mental concept is excluded from another one's knowledge, comes from the body; and so it happens that even when the will directs the concept of the mind to make itself known, it is not at once make known to another; but some sensible sign must be used. Gregory alludes to this fact when he says (*Moral*. ii):[37] "To other eyes we seem to stand aloof as it were behind the wall of the body; and when we wish to make ourselves known, we go out as it were by the

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[34] Chap. 7 (PL 75,559).
[35] PL 42, 1042, 1043.
[36] Averroes, *In De An.,* II, 18 (VI, 2, 161E).
[37] Chap. 7 (PL 75, 559).

door of the tongue to show what we really are." But an angel is under no such obstacle, and so he can make his concept known to another at once.
Reply Obj. 2. External speech, made by the voice, is a necessity for us on account of the obstacle of the body. Hence it does not befit an angel; but only interior speech belongs to him, and this includes not only the interior speech by mental concept, but also its being ordered to another's knowledge by the will. So the tongue of an angel is called metaphorically the angel's power, whereby he manifests his mental concept.
Reply Obj. 3. There is no need to draw the attention of the good angels, inasmuch as they always see each other in the Word; for as one ever sees the other, so he ever sees what is ordered to himself. But because by their very nature they can speak to each other, and even now the bad angels speak to each other, we must say that the intellect is moved by the intelligible object just as sense is affected by the sensible object. Therefore, as sense is aroused by the sensible object, so the mind of an angel can be aroused to attention by some intelligible power.

Part 1-2, Q 22, A 2, ANS 721c-722c

Article 2. *Whether Passion Is in the Appetitive Rather Than in the Apprehensive Part?*

We proceed thus to the Second Article: It would seem that passion is in the apprehensive part of the soul rather than in the appetitive.
Objection 1. Because that which is first in any genus, seems to rank first among all things that are in that genus, and to be their cause, as is stated in *Metaphysics*.[38] Now passion is found to be in the apprehensive, before being in the appetitive part: for the appetitive part is not affected unless there be a previous passion in the apprehensive part. Therefore passion is in the apprehensive part more than in the appetitive.
Obj. 2. Further, what is more active is less passive; for action is contrary to passion. Now the appetitive part is more active than the apprehensive part. Therefore it seems that passion is more in the apprehensive part.
Obj. 3. Further, just as the sensitive appetite is the power of a corporeal organ, so is the power of sensitive apprehension. But passion in the soul occurs, properly speaking, in respect of a bodily transmutation. Therefore passion is not more in the sensitive appetitive than in the sensitive apprehensive part.
On the contrary, Augustine says[39] that "the movement of the soul, which the Greeks called pathe, are styled by some of our writers, Cicero for instance,[40] disturbances; by some, affections or emotions; while others rendering the Greek more accurately, call them passions." From this it is

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[38] Aristotle, II, 1 (993^b24).
[39] *City of God,* IX, 4, (PL 41, 258).
[40] *Tusc.,* IV, 5.

evident that the passions of the soul are the same as affections. But affections manifestly belong to the appetitive, and not to the apprehensive part. Therefore the passions are in the appetitive rather than in the apprehensive part.

I answer that, As we have already stated (A. 1) the word "passion" implies that the patient is drawn to that which belongs to the agent. Now the soul is drawn to a thing by the appetitive power rather than by the apprehensive power: because the soul has, through its appetitive power, an order to things as they are in themselves: hence the Philosopher says[41] that "good and evil," i.e. the objects of the appetitive power, "are in things themselves." On the other hand the apprehensive power is not drawn to a thing, as it is in itself; but knows it by reason of an "intention" of the thing, which "intention" it has in itself, or receives in its own way. Hence we find it stated[42] that "the true and the false," which pertain to knowledge, "are not in things, but in the mind." Consequently it is evident that the nature of passion is consistent with the appetitive, rather than with the apprehensive part.

Reply Obj. 1. In things relating to perfection the case is the opposite, in comparison to things that pertain to defect. Because in things relating to perfection, intensity is in proportion to the approach to one first principle; to which the nearer a thing approaches, the more intense it is. Thus the intensity of a thing possessed of light depends on its approach to something endowed with light in a supreme degree, to which the nearer a thing approaches the more light it possesses. But in things that relate to defect, intensity depends, not on approach to something supreme, but [o]n receding from that which is perfect; because therein consists the very notion of privation and defect. Therefore the less a thing recedes from that which stands first, the less intense it is: and the result is that at first we always find some small defect, which afterwards increases as it goes on. Now passion pertains to defect, because it belongs to a thing according as it is in potency. Therefore in those things that approach to the Supreme Perfection, i.e. to God, there is but little potentiality and passion: while in other things, consequently, there is more. Hence also, in the supreme, i.e. the apprehensive, power of the soul, passion is found less than in the other powers.

Reply Obj. 2. The appetitive power is said to be more active, because it is, more than the apprehensive power, the principle of the exterior action: and this for the same reason that it is more passive, namely, its being related to things as existing in themselves: since it is through the external action that we attain to things.

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[41] *Metaphysics,* VI, 4(1027[b]25).
[42] *Ibid.*

Reply Obj. 3. As stated in the First Part (Q. LXXVIII, A. 3) the organs of the soul can be changed in two ways. First, by a spiritual change, in respect of which the organ receives an "intention" of the object. And this is essential to the act of the sensitive apprehension: thus is the eye changed by the object visible, not by being colored, but by receiving an intention of color. But the organs are receptive of another and natural change, which affects their natural disposition; for instance, when they become hot or cold, or undergo some similar change. And whereas this kind of change is accidental to the act of the sensitive apprehension; for instance, if the eye be wearied through gazing intently at something or be overcome by the intensity of the object: on the other hand, it is essential to the act of the sensitive appetite; and so the material element in the definitions of the movements of the appetitive part, is the natural change of the organ; for instance, "anger is" said to be "a kindling of the blood about the heart."[43]Hence it is evident that the notion of passion is more consistent with the act of the sensitive appetite, than with that of the sensitive apprehension, although both are actions of a corporeal organ.

20 AQUINAS: *Summa Theologica*, PART I-II, Q 93, A I, REP 2 215b,d-216c

Article 1. *Whetherthe Eternal Law Is a Supreme Type Existing in God?*
We proceed thus to the First Article: It would seem that the eternal law is not a supreme type (*ratio*) existing in God.
Objection 1. For there is only one eternal law. But there are many types of things in the Divine mind; for Augustine says (QQ. LXXXIII, *qu*. 46)[44] that God "made each thing according to its type." Therefore the eternal law does not seem to be a type existing in the Divine mind.
Obj. 2. Further, it is essential to a law that it be promulgated by word, as stated above (Q. XC, A. 4; Q. XCI, A. 1, Reply 2). But Word is a Personal name in God, as stated in the First Part (Q. XXXIV, A. 1): whereas type refers to the Essence. Therefore the eternal law is not the same as a Divine type.
Obj. 3. Further, Augustine says (*De Vera Relig*. xxx):[45] "We see a law above our minds, which is called truth." But the law which is above our minds is the eternal law. Therefore truth is the eternal law. But the idea of truth is not the same as the idea of a type. Therefore the eternal law is not the same as the sovereign type.

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[43] Aristotle, *Soul*, I, 1 (403[a]31); cf. below, Q. XLVIII, A. 2, Arg. on the Contrary; Damascene, *De Fide Orth.,* II, 16 (PG 94, 932).
[44] PL 40, 30.
[45] PL 34, 147.

On the contrary, Augustine says (*De Lib. Arb*. i, 6)[46] that "the eternal law is the sovereign type, to which we must always conform."

I answer that, Just as in every artificer there pre-exists a type of the things that are made by his art, so too in every governor there must pre-exist the type of the order of those things that are to be done by those who are subject to his government. And just as the type of the things yet to be made by an art is called the art or exemplar of the products of that art, so too the type in him who governs the acts of his subjects, bears the character of a law, provided the other conditions be present which we have mentioned above (Q. XC). Now God, by His wisdom, is the Creator of all things in relation to which He stands as the artificer to the products of his art, as stated in the First Part (Q. XIV, A. 8). Moreover He governs all the acts and movements that are to be found in each single creature, as was also stated in the First Part (Q. CIII, A. 5). Therefore as the type of the Divine Wisdom, inasmuch as by It all things are created, has the character of art, exemplar or idea; so the type of Divine Wisdom, as moving all things to their due end, bears the character of law. Accordingly the eternal law is nothing else than the type of Divine Wisdom, as directing all actions and movements.

Reply Obj. 1. Augustine is speaking in that passage of the ideal types which regard the proper nature of each single thing; and consequently in them there is a certain distinction and plurality, according to their different relations to things, as stated in the First Part (Q. XV, A. 2). But law is said to direct human acts by ordaining them to the common good, as stated above (Q. XC, A. 2). And things, which are in themselves different, may be considered as one, according as they are ordained to one common thing. Wherefore the eternal law is one since it is the type of this order.

Reply Obj. 2. With regard to any sort of word, two points may be considered: viz. the word itself, and that which is expressed by the word. For the spoken word is something uttered by the mouth of man, and expresses that which is signified by the human word. The same applies to the human mental word, which is nothing else than something conceived by the mind, by which man expresses his thoughts mentally. So then in God the Word conceived by the intellect of the Father is the name of a Person: but all things that are in the Father's knowledge, whether they refer to the Essence or to the Persons, or to the works of God, are expressed by this Word, as Augustine declares (*De Trin*. xv, 14).[47] And among other things expressed by this Word, the eternal law itself is expressed thereby. Nor does it follow that the eternal law is a Personal name in God: yet it is appropriated to the Son, on account of the kinship between type and word.

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[46] PL 32, 1229.

[47] PL 42, 1076; VI, 10 (PL 42, 931).

Reply Obj. 3. The types of the Divine intellect do not stand in the same relation to things, as the types of the human intellect. For the human intellect is measured by things, so that a human concept is not true by reason of itself, but by reason of its being consonant with things, since "an opinion is true or false according as it answers to the reality." But the Divine intellect is the measure of things: since each thing has so far truth in it, as it represents the Divine intellect, as was stated in the First Part (Q. XVI, A. 1). Consequently the Divine intellect is true in itself; and its type is truth itself.

31 DESCARTES: *Meditations*, III 81d-89a passim / *Objections and Replies*, DEF III-IV 130b; AXIOM VI 132a; PROP II 132c

Meditations, III 81d-89a passim

Of the True and the False.

I have been well accustomed these past days to detach my mind from my senses, and I have accurately observed that there are very few things that one knows with certainty respecting corporeal objects, that there are many more which are known to us respecting the human mind, and yet more still regarding God Himself; so that I shall now without any difficulty abstract my thoughts from the consideration of [sensible or] imaginable objects, and carry them to those which, being withdrawn from all contact with matter, are purely intelligible. And certainly the idea which I possess of the human mind inasmuch as it is a thinking thing, and not extended in length, width and depth, nor participating in anything pertaining to body, is incomparably more distinct than is the idea of any corporeal thing. And when I consider that I doubt, that is to say, that I am an incomplete and dependent being, the idea of a being that is complete and independent, that is of God, presents itself to my mind with so much distinctness and clearness—and from the fact alone that this idea is found in me, or that I who possess this idea exist, I conclude so certainly that God exists, and that my existence depends entirely on Him in every moment of my life—that I do not think that the human mind is capable of knowing anything with more evidence and certitude. And it seems to me that I now have before me a road which will lead us from the contemplation of the true God (in whom all the treasures of science and wisdom are contained) to the knowledge of the other objects of the universe.

For, first of all, I recognize it to be impossible that He should ever deceive me; for in all fraud and deception some imperfection is to be found, and although it may appear that the power of deception is a mark of subtilty or power, yet the desire to deceive without doubt testifies to malice or feebleness, and accordingly cannot be found in God.

In the next place I experienced in myself a certain capacity for judging which I have doubtless received from God, like all the other things that I possess; and as He could not desire to deceive me, it is clear that He has not given me a faculty that will lead me to err if I use it aright.

And no doubt respecting this matter could remain, if it were not that the consequence would seem to follow that I can thus never be deceived; for if I hold all that I possess from God, and if He has not placed in me the capacity for error, it seems as though I could never fall into error. And it is true that when I think only of God [and direct my mind wholly to Him], I discover [in myself] no cause of error, or falsity; yet directly afterwards, when recurring to myself, experience shows me that I am nevertheless subject to an infinitude of errors, as to which, when we come to investigate them more closely, I notice that not only is there a real and positive idea of God or of a Being of supreme perfection present to my mind, but also, so to speak, a certain negative idea of nothing, that is, of that which is infinitely removed from any kind of perfection; and that I am in a sense something intermediate between God and nought, i.e. placed in such a manner between the supreme Being and non-being, that there is in truth nothing in me that can lead to error in so far as a sovereign Being has formed me; but that, as I in some degree participate likewise in nought or in non-being, i.e. in so far as I am not myself the supreme Being, and as I find myself subject to an infinitude of imperfections, I ought not to be astonished if I should fall into error. Thus do I recognize that error, in so far as it is such, is not a real thing depending on God, but simply a defect; and therefore, in order to fall into it, that I have no need to possess a special faculty given me by God for this very purpose, but that I fall into error from the fact that the power given me by God for the purpose of distinguishing truth from error is not infinite.

Nevertheless this does not quite satisfy me; for error is not a pure negation [i.e. is not the dimple defect or want of some perfection which ought not to be mine], but it is a lack of some knowledge which it seems that I ought to possess. And on considering the nature of God it does not appear to me possible that He should have given me a faculty which is not perfect of its kind, that is, which is wanting in some perfection due to it. For if it is true that the more skillful the artizan, the more perfect is the work of his hands, what can have been produced by this supreme Creator of all things that is not in all its parts perfect? And certainly there is no doubt that God could have created me so that I could never have been subject to error; it is also certain that He ever wills what is best; is it then better that I should be subject to err than that I should not?

In considering this more attentively, it occurs to me in the first place that I should not be astonished if my intelligence is not capable of comprehending why God acts as He does; and that there is thus no reason

to doubt of His existence from the fact that I may perhaps find many other things besides this as to which I am able to understand neither for what reason nor how God has produced them. For, in the first place, knowing that my nature is extremely feeble and limited, and that the nature of God is on the contrary immense, incomprehensible, and infinite, I have no further difficulty in recognising that there is an infinitude of matter in His power, the causes of which transcend my knowledge; and this reason suffices to convince me that the species of cause termed final, finds no useful employment in physical [or natural] things; for it does not appear to me that I can without temerity seek to investigate the [inscrutable] ends of God.

It further occurs to me that we should not consider one single creature separately, when we inquire as to whether the works of God are perfect, but should regard all his creations together. For the same thing which might possibly seem very imperfect with some semblance of reason if regarded by itself, is found to be very perfect if regarded as part of the whole universe; and although, since I resolved to doubt all things, I as yet have only known certainly my own existence and that of God, nevertheless since I have recognized the infinite power of God, I cannot deny that He may have produced many other things, or at least that He has the power of producing them, so that I may obtain a place as a part of a great universe.

Whereupon, regarding myself more closely, and considering what are my errors (for they alone testify to there being any imperfection in me), I answer that they depend on a combination of two causes, to wit, on the faculty of knowledge that rests in me, and on the power of choice or of free will—that is to say, of the understanding and at the same time of the will. For by the understanding alone I [neither assert nor deny anything, but] apprehend18 the ideas of things as to which I can form a judgment. But no error is properly speaking found in it, provided the word error is taken in its proper signification; and though there is possibly an infinitude of things in the world of which I have no idea in my understanding, we cannot for all that say that it is deprived of these ideas [as we might say of something which is required by its nature], but simply it does not possess these; because in truth there is no reason to prove that God should have given me a greater faculty of knowledge than He has given me; and however skillful a workman I represent Him to be, I should not for all that consider that He was bound to have placed in each of His works all the perfections which He may have been able to place in some. I likewise cannot complain that God has not given me a free choice or a will which is sufficient, ample and perfect, since as a matter of fact I am conscious of a will so extended as to be subject to no limits. And what seems to me very remarkable in this regard is that of all the qualities which I possess there is no one so perfect and so comprehensive that I do not very clearly recognize that it might be

yet greater and more perfect. For, to take an example, if I consider the faculty of comprehension which I possess, I find that it is of very small extent and extremely limited, and at the same time I find the idea of another faculty much more ample and even infinite, and seeing that I can form the idea of it, I recognize from this very fact that it pertains to the nature of God. If in the same way I examine the memory, the imagination, or some other faculty, I do not find any which is not small and circumscribed, while in God it is immense [or infinite]. It is free-will alone or liberty of choice which I find to be so great in me that I can conceive no other idea to be more great; it is indeed the case that it is for the most part this will that causes me to know that in some manner I bear the image and similitude of God. For although the power of will is incomparably greater in God than in me, both by reason of the knowledge and the power which, conjoined with it, render it stronger and more efficacious, and by reason of its object, inasmuch as in God it extends to a great many things; it nevertheless does not seem to me greater if I consider it formally and precisely in itself: for the faculty of will consists alone in our having the power of choosing to do a thing or choosing not to do it (that is, to affirm or deny, to pursue or to shun it), or rather it consists alone in the fact that in order to affirm or deny, pursue or shun those things placed before us by the understanding, we act so that we are unconscious that any outside force constrains us in doing so. For in order that I should be free it is not necessary that I should be indifferent as to the choice of one or the other of two contraries; but contrariwise the more I lean to the one—whether I recognize clearly that the reasons of the good and true are to be found in it, or whether God so disposes my inward thought—the more freely do I choose and embrace it. And undoubtedly both divine grace and natural knowledge, far from diminishing my liberty, rather increase it and strengthen it. Hence this indifference which I feel, when I am not swayed to one side rather than to the other by lack of reason, is the lowest grade of liberty, and rather evinces a lack or negation in knowledge than a perfection of will: for if I always recognized clearly what was true and good, I should never have trouble in deliberating as to what judgment or choice I should make, and then I should be entirely free without ever being indifferent.

From all this I recognize that the power of will which I have received from God is not of itself the source of my errors—for it is very ample and very perfect of its kind—any more than is the power of understanding; for since I understand nothing but by the power which God has given me for understanding, there is no doubt that all that I understand, I understand as I ought, and it is not possible that I err in this. Whence then come my errors? They come from the sole fact that since the will is much wider in its range and compass than the understanding, I do not restrain it within the same bounds, but extend it also to things which I do not understand: and

as the will is of itself indifferent to these, it easily falls into error and sin, and chooses the evil for the good, or the false for the true.

For example, when I lately examined whether anything existed in the world, and found that from the very fact that I considered this question it followed very clearly that I myself existed, I could not prevent myself from believing that a thing I so clearly conceived was true: not that I found myself compelled to do so by some external cause, but simply because from great clearness in my mind there followed a great inclination of my will; and I believed this with so much the greater freedom or spontaneity as I possessed the less indifference towards it. Now, on the contrary, I not only know that I exist, inasmuch as I am a thinking thing, but a certain representation of corporeal nature is also presented to my mind; and it comes to pass that I doubt whether this thinking nature which is in me, or rather by which I am what I am, differs from this corporeal nature, or whether both are not simply the same thing; and I here suppose that I do not yet know any reason to persuade me to adopt the one belief rather than the other. From this it follows that I am entirely indifferent as to which of the two I affirm or deny, or even whether I abstain from forming any judgment in the matter.

And this indifference does not only extend to matters as to which the understanding has no knowledge, but also in general to all those which are not apprehended with perfect clearness at the moment when the will is deliberating upon them: for, however probable are the conjectures which render me disposed to form a judgment respecting anything, the simple knowledge that I have that those are conjectures alone and not certain and indubitable reasons, suffices to occasion me to judge the contrary. Of this I have had great experience of late when I set aside as false all that I had formerly held to be absolutely true, for the sole reason that I remarked that it might in some measure be doubted.

But if I abstain from giving my judgment on any thing when I do not perceive it with sufficient clearness and distinctness, it is plain that I act rightly and am not deceived. But if I determine to deny or affirm, I no longer make use as I should of my free will, and if I affirm what is not true, it is evident that I deceive myself; even though I judge according to truth, this comes about only by chance, and I do not escape the blame of misusing my freedom; for the light of nature teaches us that the knowledge of the understanding should always precede the determination of the will. And it is in the misuse of the free will that the privation which constitutes the characteristic nature of error is met with. Privation, I say, is found in the act, in so far as it proceeds from me, but it is not found in the faculty which I have received from God, nor even in the act in so far as it depends on Him.

For I have certainly no cause to complain that God has not given me an intelligence which is more powerful, or a natural light which is stronger than that which I have received from Him, since it is proper to the finite understanding not to comprehend a multitude of things, and it is proper to a created understanding to be finite; on the contrary, I have every reason to render thanks to God who owes me nothing and who has given me all the perfections I possess, and I should be far from charging Him with injustice, and with having deprived me of, or wrongfully withheld from me, these perfections which He has not bestowed upon me.

I have further no reason to complain that He has given me a will more ample than my understanding, for since the will consists only of one single element, and is so to speak indivisible, it appears that its nature is such that nothing can be abstracted from it [without destroying it]; and certainly the more comprehensive it is found to be, the more reason I have to render gratitude to the giver.

And, finally, I must also not complain that God concurs with me in forming the acts of the will, that is the judgment in which I go astray, because these acts are entirely true and good, inasmuch as they depend on God; and in a certain sense more perfection accrues to my nature from the fact that I can form them, than if I could not do so. As to the privation in which alone the formal reason of error or sin consists, it has no need of any concurrence from God, since it is not a thing [or an existence], and since it is not related to God as to a cause, but should be termed merely a negation [according to the significance given to these words in the Schools]. For in fact it is not an imperfection in God that He has given me the liberty to give or withhold my assent from certain things as to which He has not placed a clear and distinct knowledge in my understanding; but it is without doubt an imperfection in me not to make a good use of my freedom, and to give my judgment readily on matters which I only understand obscurely. I nevertheless perceive that God could easily have created me so that I never should err, although I still remained free, and endowed with a limited knowledge, viz. by giving to my understanding a clear and distinct intelligence of all things as to which I should ever have to deliberate; or simply by His engraving deeply in my memory the resolution never to form a judgment on anything without having a clear and distinct understanding of it, so that I could never forget it. And it is easy for me to understand that, in so far as I consider myself alone, and as if there were only myself in the world, I should have been much more perfect than I am, if God had created me so that I could never err. Nevertheless I cannot deny that in some sense it is a greater perfection in the whole universe that certain parts should not be exempt from error as others are than that all parts should be exactly similar. And I have no right to complain if God, having placed me in the

world, has not called upon me to play a part that excels all others in distinction and perfection.
And further I have reason to be glad on the ground that if He has not given me the power of never going astray by the first means pointed out above, which depends on a clear and evident knowledge of all the things regarding which I can deliberate, He has at least left within my power the other means, which is firmly to adhere to the resolution never to give judgment on matters whose truth is not clearly known to me; for although I notice a certain weakness in my nature in that I cannot continually concentrate my mind on one single thought, I can yet, by attentive and frequently repeated meditation, impress it so forcibly on my memory that I shall never fail to recollect it whenever I have need of it, and thus acquire the habit of never going astray.
And inasmuch as it is in this that the greatest and principal perfection of man consists, it seems to me that I have not gained little by this day's Meditation, since I have discovered the source of falsity and error. And certainly there can be no other source than that which I have explained; for as often as I so restrain my will within the limits of my knowledge that it forms no judgment except on matters which are clearly and distinctly represented to it by the understanding, I can never be deceived; for every clear and distinct conception19 is without doubt something, and hence cannot derive its origin from what is nought, but must of necessity have God as its author—God, I say, who being supremely perfect, cannot be the cause of any error; and consequently we must conclude that such a conception [or such a judgment] is true. Nor have I only learned to-day what I should avoid in order that I may not err, but also how I should act in order to arrive at a knowledge of the truth; for without doubt I shall arrive at this end if I devote my attention sufficiently to those things which I perfectly understand; and if I separate from these that which I only understand confusedly and with obscurity. To these I shall henceforth diligently give heed.

Objections and Replies, DEF III-IV 130b

III. By the objective reality of an idea I mean that in respect of which the thing represented in the idea is an entity, in so far as that exists in the idea; and in the same way we can talk of objective perfection, objective device, etc. For whatever we perceive as being as it were in the objects of our ideas, exists in the ideas themselves objectively.
IV. To exist *formally* is the term applied where the same thing exists in the object of an idea in such a manner that the way in which it exists in the object is exactly like what we know of it when aware of it; it exists *eminently* when, though not indeed of identical quality, it is yet of such amount as to be able to fulfil the function of an exact counterpart.

Objections and Replies, AXIOM VI 132a

VI. There are diverse degrees of reality or (the quality of being an) entity. For substance has more reality than accident or mode; and infinite substance has more than finite substance. Hence there is more objective reality in the idea of substance than in that of accident; more in the idea of an infinite than in that of a finite substance.

Objections and Replies, PROP II 132c

PROPOSITION II

A posteriori demonstration of God's existence from the mere fact that the idea of God exists in us.

Demonst. The objective reality of any of our ideas must have a cause, in which the very same reality is contained, not merely objectively but formally, or else eminently (Ax. V). But we do possess the idea of God (Deff. II and VIII), and the objective reality of this idea is contained in us neither formally nor eminently (Ax. VI), nor can it be contained in anything other than God Himself (Def. VIII). Hence this idea of God, which exists in us, must have God as its cause, and hence God exists (Ax. III).

31 SPINOZA: *Ethics*, PART II, DEF 3 373b; PROP 5 374c-d

Ethics, PART II, DEF 3 373b

3. By idea, I understand a conception of the mind which the mind forms because it is a thinking thing.

Explanation.—I use the word conception rather than perception because the name perception seems to indicate that the mind is passive in its relation to the object. But the word conception seems to express the action of the mind.

Ethics, PART II, PROP 5 374c-d

Prop. 5. *The formal Being of ideas recognizes God for its cause in so far only as He is considered as a thinking thing, and not in so far as He is manifested by any other attribute; that is to say, the ideas both of God's attributes and of individual things do not recognize as their efficient cause the objects of the ideas or the things which are perceived, but God Himself in so far as He is a thinking thing.*

Demonst. This is plain, from Prop. 3, pt. 2; for we there demonstrated that God can form an idea of His own essence and of all things which necessarily follow from it, solely because He is a thinking thing and not because He is the object of His idea. Therefore the formal Being of ideas recognizes God as its cause insofar as He is a thinking thing. But the proposition can be proved in another way. The formal Being of ideas is a mode of thought (as is self-evident); that is to say, (Corol. Prop. 25, pt. 1), a

mode which expresses in a certain manner the nature of God insofar as He is a thinking thing. It is a mode, therefore (Prop. 10, pt. 1), that involves the conception of no other attribute of God, and consequently is the effect (Ax. 4, pt. 1) of no other attribute except that of thought. Therefore the formal Being of ideas, etc. Q.E.D.

35 LOCKE: *Human Understanding*, BK II, CH XXX, SECT 2 238b-c; CH XXXII, SECT 8 244d; SECT 14-16 245c-246b; BK IV, CH II, SECT 14 312b-d; CH XXI, SECT 4 395a,c

Human Understanding, BK II, CH XXX, SECT 2 238b-c

2. *Simple ideas are all real appearances of things.* First, Our *simple ideas* are all real, all agree to the reality of things: not that they are all of them the images or representations of what does exist; the contrary whereof, in all but the primary qualities of bodies, hath been already shown. But, though whiteness and coldness are no more in snow than pain is; yet those ideas of whiteness and coldness, pain, &c., 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. For, these several appearances being designed to be the mark whereby we are to know and distinguish things which we have to do with, our ideas do as well serve us to that purpose, and are as real distinguishing characters, whether they be only *constant effects*, or else *exact resemblances* of something in the things themselves: the reality lying in that steady correspondence they have with the distinct constitutions of real beings. But whether they answer to those constitutions, as to causes or patterns, it matters not; it suffices that they are constantly produced by them. And thus our simple ideas are all real and true, because they answer and agree to those powers of things which produce them in our minds; that being all that is requisite to make them real, and not fictions at pleasure. For in simple ideas (as has been shown) the mind is wholly confined to the operation of things upon it, and can make to itself no simple idea, more than what it has received.

Human Understanding, BK II, CH XXXII, SECT 8 244d

8. *How men suppose that their ideas must correspond to things, and to the customary meanings of names.* But this *abstract idea*, being something in the mind, between the thing that exists, and the name that is given to it; it is in our ideas that both the rightness of our knowledge, and the propriety and intelligibleness of our speaking, consists. And hence it is that men are so forward to suppose, that the abstract ideas they have in their minds are such as agree to the things existing without them, to which they are

referred; and are the same also to which the names they give them do by the use and propriety of that language belong. For without this double conformity of their ideas, they find they should both think amiss of things in themselves, and talk of them unintelligibly to others.

Human Understanding, BK II, CH XXXII, SECT 14-16 245c-246b

14. *Simple ideas in this sense not false, and why.* First, our simple ideas, being barely such perceptions as God has fitted us to receive, and given power to external objects to produce in us by established laws and ways, suitable to his wisdom and goodness, though incomprehensible to us, their truth consists in nothing else but in such appearances as are produced in us, and must be suitable to those powers he has placed in external objects or else they could not be produced in us: and thus answering those powers, they are what they should be, true ideas. Nor do they become liable to any imputation of falsehood, if the mind (as in most men I believe it does) judges these ideas to be in the things themselves. For God in his wisdom having set them as marks of distinction in things, whereby we may be able to discern one thing from another, and so choose any of them for our uses as we have occasion; it alters not the nature of our simple idea, whether we think that the idea of blue be in the violet itself, or in our mind only; and only the power of producing it by the texture of its parts, reflecting the particles of light after a certain manner, to be in the violet itself. For that texture in the object, by a regular and constant operation producing the same idea of blue in us, it serves us to distinguish, by our eyes, that from any other thing; whether that distinguishing mark, as it is really in the violet, be only a peculiar texture of parts, or else that very colour, the idea whereof (which is in us) is the exact resemblance. And it is equally from that appearance to be denominated blue, whether it be that real colour, or only a peculiar texture in it, that causes in us that idea: since the name, *blue*, notes properly nothing but that mark of distinction that is in a violet, discernible only by our eyes, whatever it consists in; that being beyond our capacities distinctly to know, and perhaps would be of less use to us, if we had faculties to discern.

15. *Though one man's idea of blue should be different from another's.* Neither would it carry any imputation of falsehood to our simple ideas, if by the different structure of our organs it were so ordered, that *the same object should produce in several men's minds different ideas* at the same time; v.g. if the idea that a violet produced in one man's mind by his eyes were the same that a marigold produced in another man's, and *vice versa*. For, since this could never be known, because one man's mind could not pass into another man's body, to perceive what appearances were produced by those organs; neither the ideas hereby, nor the names, would be at all confounded, or any falsehood be in either. For all things that had the

texture of a violet, producing constantly the idea that he called blue, and those which had the texture of a marigold, producing constantly the idea which he as constantly called yellow, whatever those appearances were in his mind; he would be able as regularly to distinguish things for his use by those appearances, and understand and signify those distinctions marked by the name blue and yellow, as if the appearances or ideas in his mind received from those two flowers were exactly the same with the ideas in other men's minds. I am nevertheless very apt to think that the sensible ideas produced by any object in different men's minds, are most commonly very near and undiscernibly alike. For which opinion, I think, there might be many reasons offered: but that being besides my present business, I shall not trouble my reader with them; but only mind him, that the contrary supposition, if it could be proved, is of little use, either for the improvement of our knowledge, or conveniency of life, and so we need not trouble ourselves to examine it.

16. *Simple ideas can none of them be false in respect of real existence.* From what has been said concerning our simple ideas, I think it evident that our simple ideas can none of them be false in respect of things existing without us. For the truth of these appearances or perceptions in our minds consisting, as has been said, only in their being answerable to the powers in external objects to produce by our senses such appearances in us, and each of them being in the mind such as it is, suitable to the power that produced it, and which alone it represents, it cannot upon that account, or as referred to such a pattern, be false. Blue and yellow, bitter or sweet, can never be false ideas: these perceptions in the mind are just such as they are there, answering the powers appointed by God to produce them; and so are truly what they are, and are intended to be. Indeed the names may be misapplied, but that in this respect makes no falsehood in the ideas; as if a man ignorant in the English tongue should call purple scarlet. [48]

Human Understanding, BK IV, CH II, SECT 14 312b-d

14. *Sensitive knowledge of the particular existence of finite beings without us.* These two, viz. intuition and demonstration, are the degrees of our *knowledge*; whatever comes short of one of these, with what assurance soever embraced, is but *faith* or *opinion*, but not knowledge, at least in all general truths. There is, indeed, another perception of the mind, employed about *the particular existence of finite beings without us*, which, going beyond bare probability, and yet not reaching perfectly to either of the foregoing degrees of certainty, passes under the name of *knowledge*. There can be nothing more certain than that the idea we receive from an external object is in our minds:[49] this is intuitive knowledge. But whether there be

[48] Cf. sect. 14, closely followed in sect. 15.
[49] Cf. ch. xi.

anything more than barely that idea in our minds; whether we can thence certainly infer the existence of anything without us, which corresponds to that idea, is that whereof some men think there may be a question made; because men may have such ideas in their minds, when no such thing exists, no such object affects their senses. But yet here I think we are provided with an evidence that puts us past doubting. For I ask any one, Whether he be not invincibly conscious to himself of a different perception, when he looks on the sun by day, and thinks on it by night; when he actually tastes wormwood, or smells a rose, or only thinks on that savour or odour? We as plainly find the difference there is between any idea revived in our minds by our own memory, and actually coming into our minds by our senses, as we do between any two distinct ideas. If any one say, a dream may do the same thing, and all these ideas may be produced in us 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 his 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 a very manifest difference between dreaming of being in the fire, and being actually in it. But yet if he be resolved to appear so sceptical as to maintain, that what I call being actually in the fire is nothing but a dream; and that we cannot thereby certainly know, that any such thing as fire actually exists without us: I answer, That we certainly finding that pleasure or pain follows upon the application of certain objects to us, whose existence we perceive, or dream that we perceive, by our senses; this certainty is as great as our happiness or misery, beyond which we have no concernment to know or to be. So that, I think, we may add to the two former sorts of knowledge this also, of the existence of particular external objects, by that perception and consciousness we have of the actual entrance of ideas from them, and allow these three degrees of knowledge, viz. *intuitive*, *demonstrative*, and *sensitive*: in each of which there are different degrees and ways of evidence and certainty.

Human Understanding, BK IV, CH XXI, SECT 4 395a,c

4. Semeiotike. *Thirdly*, the third branch may be called Semeiotike, or *the doctrine of signs*; the most usual whereof being words, it is aptly enough termed also Logike, *logic*: the business whereof is to consider the nature of signs, the mind makes use of for the understanding of things, or conveying its knowledge to others. For, since the things the mind contemplates 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*. And because the scene of ideas that makes one man's thoughts cannot be laid open to the immediate view of another, nor laid up anywhere but in the memory, a no very sure

repository:[50] therefore to communicate our thoughts to one another, as well as record them for our own use, signs of our ideas are also necessary: those which men have found most convenient, and therefore generally make use of, are *articulate sounds*. The consideration, then, of *ideas* and *words* as the great instruments of knowledge, makes no despicable part of their contemplation who would take a view of human knowledge in the whole extent of it. And perhaps if they were distinctly weighed, and duly considered, they would afford us another sort of logic and critic, than what we have been hitherto acquainted with. [51]

35 BERKELEY: Human Knowledge, SECT 15 415d-416a; SECT 43-44 420d-421a; SECT 65-66 425d-426a; SECT 145-154 441d-444b passim, esp SECT 148 442b-d

Human Knowledge, SECT 15 415d-416a

15. In short, let any one consider those arguments which are thought manifestly to prove that colours and taste exist only in the mind, and he shall find they may with equal force be brought to prove the same thing of extension, figure, and motion. Though it must be confessed this method of arguing does not so much prove that there is no extension or colour in an outward object, as that we do not know by sense which is the true extension or colour of the object. But the arguments foregoing plainly shew it to be impossible that any colour or extension at all, or other sensible quality whatsoever, should exist in an unthinking subject without the mind, or in truth, that there should be any such thing as an outward object.

Human Knowledge, SECT 43-44 420d-421a

43. But, for the fuller clearing of this point, it may be worth while to consider how it is that we perceive distance and things placed at a distance by sight. For, that we should in truth see external space, and bodies actually existing in it, some nearer, others farther off, seems to carry with it some opposition to what hath been said of their existing nowhere without the mind. The consideration of this difficulty it was that gave birth to my "Essay towards a New Theory of Vision," which was published not long since, wherein it is shewn that distance or outness is neither immediately of itself perceived by sight, nor yet apprehended or judged of by lines and angles, or anything that hath a necessary connexion with it; but that it is only suggested to our thoughts by certain visible ideas and sensations attending vision, which in their own nature have no manner of similitude or relation either with distance or things placed at a distance; but, by a

[50] Cf. Bk. II. ch. x. sect. 4, 5, 8, 9.
[51] Cf. Bk. I. ch. iii. sect. 25. So Bacon, *Novum Organum,* I. 11-19.

connexion taught us by experience, they come to signify and suggest them to us, after the same manner that words of any language suggest the ideas they are made to stand for; insomuch that a man born blind and afterwards made to see, would not, at first sight, think the things he saw to be without his mind, or at any distance from him. See sect. 41 of the fore-mentioned treatise.

44. The ideas of sight and touch make two species entirely distinct and heterogeneous. The former are marks and prognostics of the latter. That the proper objects of sight neither exist without mind, nor are the images of external things, was shewn even in that treatise. Though throughout the same the contrary be supposed true of tangible objects- not that to suppose that vulgar error was necessary for establishing the notion therein laid down, but because it was beside my purpose to examine and refute it in a discourse concerning Vision. So that in strict truth the ideas of sight, when we apprehend by them distance and things placed at a distance, do not suggest or mark out to us things actually existing at a distance, but only admonish us what ideas of touch will be imprinted in our minds at such and such distances of time, and in consequence of such or such actions. It is, I say, evident from what has been said in the foregoing parts of this Treatise, and in sect. 147 and elsewhere of the Essay concerning Vision, that visible ideas are the Language whereby the Governing Spirit on whom we depend informs us what tangible ideas he is about to imprint upon us, in case we excite this or that motion in our own bodies. But for a fuller information in this point I refer to the Essay itself.

Human Knowledge, SECT 65-66 425d-426a

65. To all which my answer is, first, that the connexion of ideas does not imply the relation of *cause* and *effect*, but only of a mark or *sign* with the thing *signified*. The fire which I see is not the cause of the pain I suffer upon my approaching it, but the mark that forewarns me of it. In like manner the noise that I hear is not the effect of this or that motion or collision of the ambient bodies, but the sign thereof. Secondly, the reason why ideas are formed into machines, that is, artificial and regular combinations, is the same with that for combining letters into words. That a few original ideas may be made to signify a great number of effects and actions, it is necessary they be variously combined together. And, to the end their use be permanent and universal, these combinations must be made by *rule*, and with *wise contrivance*. By this means abundance of information is conveyed unto us, concerning what we are to expect from such and such actions and what methods are proper to be taken for the exciting such and such ideas; which in effect is all that I conceive to be distinctly meant when it is said that, by discerning a figure, texture, and mechanism of the inward parts of bodies, whether natural or artificial, we

may attain to know the several uses and properties depending thereon, or the nature of the thing.
66. Hence, it is evident that those things which, under the notion of a cause co-operating or concurring to the production of effects, are altogether inexplicable, and run us into great absurdities, may be very naturally explained, and have a proper and obvious use assigned to them, when they are considered only as marks or signs for our information. And it is the searching after and endeavouring to understand those signs instituted by the Author of Nature, that ought to be the employment of the natural philosopher; and not the pretending to explain things by corporeal causes, which doctrine seems to have too much estranged the minds of men from that active principle, that supreme and wise Spirit "in whom we live, move, and have our being."

Human Knowledge, SECT 145-154 441d-444b passim, esp SECT 148 442b-d

145. From what has been said, it is plain that we cannot know the existence of other spirits otherwise than by their operations, or the ideas by them excited in us. I perceive several motions, changes, and combinations of ideas, that inform me there are certain particular agents, like myself, which accompany them and concur in their production. Hence, the knowledge I have of other spirits is not immediate, as is the knowledge of my ideas; but depending on the intervention of ideas, by me referred to agents or spirits distinct from myself, as effects or concomitant signs.
146. But, though there be some things which convince us human agents are concerned in producing them; yet it is evident to every one that those things which are called the Works of Nature, that is, the far greater part of the ideas or sensations perceived by us, are not produced by, or dependent on, the wills of men. There is therefore some other Spirit that causes them; since it is repugnant that they should subsist by themselves. See sect. 29. But, if we attentively consider the constant regularity, order, and concatenation of natural things, the surprising magnificence, beauty, and perfection of the larger, and the exquisite contrivance of the smaller parts of creation, together with the exact harmony and correspondence of the whole, but above all the never-enough-admired laws of pain and pleasure, and the instincts or natural inclinations, appetites, and passions of animals; I say if we consider all these things, and at the same time attend to the meaning and import of the attributes One, Eternal, Infinitely Wise, Good, and Perfect, we shall clearly perceive that they belong to the aforesaid Spirit, "who works all in all," and "by whom all things consist."
147. Hence, it is evident that God is known as certainly and immediately as any other mind or spirit whatsoever distinct from ourselves. We may even assert that the existence of God is far more evidently perceived than the

existence of men; because the effects of nature are infinitely more numerous and considerable than those ascribed to human agents. There is not any one mark that denotes a man, or effect produced by him, which does not more strongly evince the being of that Spirit who is the Author of Nature. For, it is evident that in affecting other persons the will of man has no other object than barely the motion of the limbs of his body; but that such a motion should be attended by, or excite any idea in the mind of another, depends wholly on the will of the Creator. He alone it is who, "upholding all things by the word of His power," maintains that intercourse between spirits whereby they are able to perceive the existence of each other. And yet this pure and clear light which enlightens every one is itself invisible.

148. It seems to be a general pretence of the unthinking herd that they cannot *see* God. Could we but see Him, say they, as we see a man, we should believe that He is, and believing obey His commands. But alas, we need only open our eyes to see the Sovereign Lord of all things, with a more full and clear view than we do any one of our fellow-creatures. Not that I imagine we see God (as some will have it) by a direct and immediate view; or see corporeal things, not by themselves, but by seeing that which represents them in the essence of God, which doctrine is, I must confess, to me incomprehensible. But I shall explain my meaning;- A human spirit or person is not perceived by sense, as not being an idea; when therefore we see the colour, size, figure, and motions of a man, we perceive only certain sensations or ideas excited in our own minds; and these being exhibited to our view in sundry distinct collections, serve to mark out unto us the existence of finite and created spirits like ourselves. Hence it is plain we do not see a man- if by *man* is meant that which lives, moves, perceives, and thinks as we do- but only such a certain collection of ideas as directs us to think there is a distinct principle of thought and motion, like to ourselves, accompanying and represented by it. And after the same manner we see God; all the difference is that, whereas some one finite and narrow assemblage of ideas denotes a particular human mind, whithersoever we direct our view, we do at all times and in all places perceive manifest tokens of the Divinity: everything we see, hear, feel, or anywise perceive by sense, being a sign or effect of the power of God; as is our perception of those very motions which are produced by men.

149. It is therefore plain that nothing can be more evident to any one that is capable of the least reflexion than the existence of God, or a Spirit who is intimately present to our minds, producing in them all that variety of ideas or sensations which continually affect us, on whom we have an absolute and entire dependence, in short "in whom we live, and move, and have our being." That the discovery of this great truth, which lies so near and obvious to the mind, should be attained to by the reason of so very few, is a sad

instance of the stupidity and inattention of men, who, though they are surrounded with such clear manifestations of the Deity, are yet so little affected by them that they seem, as it were, blinded with excess of light.
150. But you will say, Hath Nature no share in the production of natural things, and must they be all ascribed to the immediate and sole operation of God? I answer, if by *Nature* is meant only the visible *series* of effects or sensations imprinted on our minds, according to certain fixed and general laws, then it is plain that Nature, taken in this sense, cannot produce anything at all. But, if by *Nature* is meant some being distinct from God, as well as from the laws of nature, and things perceived by sense, I must confess that word is to me an empty sound without any intelligible meaning annexed to it. Nature, in this acceptation, is a vain chimera, introduced by those heathens who had not just notions of the omnipresence and infinite perfection of God. But, it is more unaccountable that it should be received among Christians, professing belief in the Holy Scriptures, which constantly ascribe those effects to the immediate hand of God that heathen philosophers are wont to impute to Nature. "The Lord He causeth the vapours to ascend; He maketh lightnings with rain; He bringeth forth the wind out of his treasures." Jerem. 10. 13. "He turneth the shadow of death into the morning, and maketh the day dark with night." Amos, 5. 8. "He visiteth the earth, and maketh it soft with showers: He blesseth the springing thereof, and crowneth the year with His goodness; so that the pastures are clothed with flocks, and the valleys are covered over with corn." See Psalm 65. But, notwithstanding that this is the constant language of Scripture, yet we have I know not what aversion from believing that God concerns Himself so nearly in our affairs. Fain would we suppose Him at a great distance off, and substitute some blind unthinking deputy in His stead, though (if we may believe Saint Paul) "He be not far from every one of us."
151. It will, I doubt not, be objected that the slow and gradual methods observed in the production of natural things do not seem to have for their cause the immediate hand of an Almighty Agent. Besides, monsters, untimely births, fruits blasted in the blossom, rains falling in desert places, miseries incident to human life, and the like, are so many arguments that the whole frame of nature is not immediately actuated and superintended by a Spirit of infinite wisdom and goodness. But the answer to this objection is in a good measure plain from sect. 62; it being visible that the aforesaid methods of nature are absolutely necessary, in order to working by the most simple and general rules, and after a steady and consistent manner; which argues both the wisdom and goodness of God. Such is the artificial contrivance of this mighty machine of nature that, whilst its motions and various phenomena strike on our senses, the hand which actuates the whole is itself unperceivable to men of flesh and blood.

"Verily" (saith the prophet) "thou art a God that hidest thyself." Isaiah, 45. 15. But, though the Lord conceal Himself from the eyes of the sensual and lazy, who will not be at the least expense of thought, yet to an unbiased and attentive mind nothing can be more plainly legible than the intimate presence of an All-wise Spirit, who fashions, regulates and sustains the whole system of beings. It is clear, from what we have elsewhere observed, that the operating according to general and stated laws is so necessary for our guidance in the affairs of life, and letting us into the secret of nature, that without it all reach and compass of thought, all human sagacity and design, could serve to no manner of purpose; it were even impossible there should be any such faculties or powers in the mind. See sect. 31. Which one consideration abundantly outbalances whatever particular inconveniences may thence arise.

152. We should further consider that the very blemishes and defects of nature are not without their use, in that they make an agreeable sort of variety, and augment the beauty of the rest of the creation, as shades in a picture serve to set off the brighter and more enlightened parts. We would likewise do well to examine whether our taxing the waste of seeds and embryos, and accidental destruction of plants and animals, before they come to full maturity, as an imprudence in the Author of nature, be not the effect of prejudice contracted by our familiarity with impotent and saving mortals. In man indeed a thrifty management of those things which he cannot procure without much pains and industry may be esteemed wisdom. But, we must not imagine that the inexplicably fine machine of an animal or vegetable costs the great Creator any more pains or trouble in its production than a pebble does; nothing being more evident than that an Omnipotent Spirit can indifferently produce everything by a mere *fiat* or act of His will. Hence, it is plain that the splendid profusion of natural things should not be interpreted weakness or prodigality in the agent who produces them, but rather be looked on as an argument of the riches of His power.

153. As for the mixture of pain or uneasiness which is in the world, pursuant to the general laws of nature, and the actions of finite, imperfect spirits, this, in the state we are in at present, is indispensably necessary to our well- being. But our prospects are too narrow. We take, for instance, the idea of some one particular pain into our thoughts, and account it *evil*; whereas, if we enlarge our view, so as to comprehend the various ends, connexions, and dependencies of things, on what occasions and in what proportions we are affected with pain and pleasure, the nature of human freedom, and the design with which we are put into the world; we shall be forced to acknowledge that those particular things which, considered in themselves, appear to be evil, have the nature of good, when considered as linked with the whole system of beings.

154. From what has been said, it will be manifest to any considering person, that it is merely for want of attention and comprehensiveness of mind that there are any favourers of Atheism or the Manichean Heresy to be found. Little and unreflecting souls may indeed burlesque the works of Providence, the beauty and order whereof they have not capacity, or will not be at the pains, to comprehend; but those who are masters of any justness and extent of thought, and are withal used to reflect, can never sufficiently admire the divine traces of Wisdom and Goodness that shine throughout the Economy of Nature. But what truth is there which shineth so strongly on the mind that by an aversion of thought, a wilful shutting of the eyes, we may not escape seeing it? Is it therefore to be wondered at, if the generality of men, who are ever intent on business or pleasure, and little used to fix or open the eye of their mind, should not have all that conviction and evidence of the Being of God which might be expected in reasonable creatures?

53 JAMES: *Psychology*, 161a-176a esp 164a-165b, 166a-b, 168b-169a, 175a-176a; 299a-311a esp 300a-301a, 307a-308a, 310b-311a; 313a; 411a; 478a-b; 502a-503a; 553b-558b esp 555a-b, 558b-561 b [fn 2]; 573b-574a; 606b-610b esp 608a-609a; 620b-621a; 664b-665b

Psychology, 161a-176a esp 164a-165b, 166a-b, 168b-169a, 175a-176a

So much for the transitive states. But there are other unnamed states or qualities of states that are just as important and just as cognitive as they, and just as much unrecognized by the traditional sensationalist and intellectualist philosophies of mind. The first fails to find them at all, the second finds their *cognitive function*, but denies that anything in the way of *feeling* has a share in bringing it about. Examples will make clear what these inarticulate psychoses, due to waxing and waning excitements of the brain, are like.[52]

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[52] M. Paulhan (Revue philosophique, xx, 455-56), after speaking of the faint mental images of objects and emotions, says: "We find other vaguer states still, upon which attention seldom rests, except in persons who by nature or profession are addicted to internal observation. It is even difficult to name them precisely, for they are little known and not classed; but we may cite as an example of them that peculiar impression which we feel when, strongly pre- occupied by a certain subject, we nevertheless are engaged with, and have our attention almost completely absorbed by, matters quite disconnected therewithal. We do not then exactly think of the object of our preoccupation; we do not represent it in a clear manner; and yet our mind is not as it would be without this preoccupation. Its object, absent from consciousness, is nevertheless represented there by a peculiar unmistakable impression, which often persists long and is a strong feeling, although so obscure for our intelligence." "A men- tal sign of the kind is the unfavorable disposition left in our mind towards an individual by painful incidents erewhile experienced and now perhaps forgotten. The sign remains, but is not understood; its definite meaning is lost" (p. 458).

Suppose three successive persons say to us: ‘Wait!’ ‘Hark!’ ‘Look!’ Our consciousness is thrown into three quite different attitudes of expectancy, although no definite object is before it in any one of the three cases. Leaving out different actual bodily attitudes, and leaving out the reverberating images of the three words, which are of course diverse, probably no one will deny the existence of a residual conscious affection, a sense of the direction from which an impression is about to come, although no positive impression is yet there. Meanwhile we have no names for the psychoses in question but the names hark, look, and wait.

Suppose we try to recall a forgotten name. The state of our consciousness is peculiar. There is a gap therein; but no mere gap. It is a gap that is intensely active. A sort of wraith of the name is in it, beckoning us in a given direction, making us at moments tingle with the sense of our closeness, and then letting us sink back without the longed-for term. If wrong names are proposed to us, this singularly definite gap acts immediately so as to negate them. They do not fit into its mould. And the gap of one word does not feel like the gap of another, all empty of content as both might seem necessarily to be when described as gaps. When I vainly try to recall the name of Spalding, my consciousness is far removed from what it is when I vainly try to recall the name of Bowles. Here some ingenious persons will say: “How *can* the two consciousnesses be different when the terms which might make them different are not there? All that is there, so long as the effort to recall is vain, is the bare effort itself. How should that differ in the two cases? You are making it seem to differ by prematurely filling it out with the different names, although these, by the hypothesis, have not yet come. Stick to the two efforts as they are, without naming them after facts not yet existent, and you’ll be quite unable to designate any point in which they differ.” Designate, truly enough. We can only designate the difference by borrowing the names of objects not yet in the mind. Which is to say that our psychological vocabulary is wholly inadequate to name the differences that exist, even such strong differences as these. But namelessness is compatible with existence. There are innumerable consciousnesses of emptiness, no one of which taken in itself has a name, but all different from each other. The ordinary way is to assume that they are all emptinesses of consciousness, and so the same state. But the feeling of an absence is *toto cœlo* other than the absence of a feeling. It is an intense feeling. The rhythm of a lost word may be there without a sound to clothe it; or the evanescent sense of something which is the initial vowel or consonant may mock us fitfully, without growing more distinct. Every one must know the tantalizing effect of the blank rhythm of some forgotten verse, restlessly dancing in one’s mind, striving to be filled out with words.

Again, what is the strange difference between an experience tasted for the first time and the same experience recognized as familiar, as having been enjoyed before, though we cannot name it or say where or when? A tune, an odor, a flavor sometimes carry this inarticulate feeling of their familiarity so deep into our consciousness that we are fairly shaken by its mysterious emotional power. But strong and characteristic as this psychosis is—it probably is due to the submaximal excitement of wide-spreading associational brain-tracts—the only name we have for all its shadings is 'sense of familiarity.'

When we read such phrases as 'naught but,' 'either one or the other,' '*a* is *b*, but,' 'although it is, nevertheless,' 'it is an excluded middle, there is no *tertium quid*,' and a host of other verbal skeletons of logical relation, is it true that there is nothing more in our minds than the words themselves as they pass? What then is the meaning of the words which we think we understand as we read? What makes that meaning different in one phrase from what it is in the other? 'Who?' 'When?' 'Where?' Is the difference of felt meaning in these interrogatives nothing more than their difference of sound? And is it not (just like the difference of sound itself) known and understood in an affection of consciousness correlative to it, though so impalpable to direct examination? Is not the same true of such negatives as 'no,' 'never,' 'not yet'?

The truth is that large tracts of human speech are nothing but *signs of direction* in thought, of which direction we nevertheless have an acutely discriminative sense, though no definite sensorial image plays any part in it whatsoever. Sensorial images are stable psychic facts; we can hold them still and look at them as long as we like. These bare images of logical movement, on the contrary, are psychic transitions, always on the wing, so to speak, and not to be glimpsed except in flight. Their function is to lead from one set of images to another. As they pass, we feel both the waxing and the waning images in a way altogether peculiar and a way quite different from the way of their full presence. If we try to hold fast the feeling of direction, the full presence comes and the feeling of direction is lost. The blank verbal scheme of the logical movement gives us the fleeting sense of the movement as we read it, quite as well as does a rational sentence awakening definite imaginations by its words.

What is that first instantaneous glimpse of some one's meaning which we have, when in vulgar phrase we say we 'twig' it? Surely an altogether specific affection of our mind. And has the reader never asked himself what kind of a mental fact is his *intention of saying a thing* before he has said it? It is an entirely definite intention, distinct from all other intentions, an absolutely distinct state of consciousness, therefore; and yet how much of it consists of definite sensorial images, either of words or of things? Hardly anything! Linger, and the words and things come into the mind; the

anticipatory intention, the divination is there no more. But as the words that replace it arrive, it welcomes them successively and calls them right if they agree with it, it rejects them and calls them wrong if they do not. It has therefore a nature of its own of the most positive sort, and yet what can we say about it without using words that belong to the later mental facts that replace it? The intention *to-say-so-and-so* is the only name it can receive. One may admit that a good third of our psychic life consists in these rapid premonitory perspective views of schemes of thought not yet articulate. How comes it about that a man reading something aloud for the first time is able immediately to emphasize all his words aright, unless from the very first he have a sense of at least the form of the sentence yet to come, which sense is fused with his consciousness of the present word, and modifies its emphasis in his mind so as to make him give it the proper accent as he utters it? Emphasis of this kind is almost altogether a matter of grammatical construction. If we read 'no more' we expect presently to come upon a 'than'; if we read 'however' at the outset of a sentence it is a 'yet,' a 'still,' or a 'nevertheless,' that we expect. A noun in a certain position demands a verb in a certain mood and number, in another position it expects a relative pronoun. Adjectives call for nouns, verbs for adverbs, etc., etc. And this foreboding of the coming grammatical scheme combined with each successive uttered word is so practically accurate that a reader incapable of understanding four ideas of the book he is reading aloud, can nevertheless read it with the most delicately modulated expression of intelligence.

Some will interpret these facts by calling them all cases in which certain images, by laws of association, awaken others so very rapidly that we think afterwards we felt the very *tendencies* of the nascent images to arise, before they were actually there. For this school the only possible materials of consciousness are images of a perfectly definite nature. Tendencies exist, but they are facts for the outside psychologist rather than for the subject of the observation. The tendency is thus a *psychical* zero; only its *results* are felt.

Now what I contend for, and accumulate examples to show, is that 'tendencies' are not only descriptions from without, but that they are among the *objects* of the stream, which is thus aware of them from within, and must be described as in very large measure constituted of *feelings* of *tendency*, often so vague that we are unable to name them at all. It is, in short, the re-instatement of the vague to its proper place in our mental life which I am so anxious to press on the attention. Mr. Galton and Prof. Huxley have, as we shall see in Chapter XVIII, made one step in advance in exploding the ridiculous theory of Hume and Berkeley that we can have no images but of perfectly definite things. Another is made in the overthrow of the equally ridiculous notion that, whilst simple objective qualities are

revealed to our knowledge in subjective feelings, relations are not. But these reforms are not half sweeping and radical enough. What must be admitted is that the definite images of traditional psychology form but the very smallest part of our minds as they actually live. The traditional psychology talks like one who should say a river consists of nothing but pailsful, spoonsful, quartpotsful, barrelsful, and other moulded forms of water. Even were the pails and the pots all actually standing in the stream, still between them the free water would continue to flow. It is just this free water of consciousness that psychologists resolutely overlook. Every definite image in the mind is steeped and dyed in the free water that flows round it. With it goes the sense of its relations, near and remote, the dying echo of whence it came to us, the dawning sense of whither it is to lead. The significance, the value, of the image is all in this halo or penumbra that surrounds and escorts it,—or rather that is fused into one with it and has become bone of its bone and flesh of its flesh; leaving it, it is true, an image of the same *thing* it was before, but making it an image of that thing newly taken and freshly understood.

What is that shadowy scheme of the 'form' of an opera, play, or book, which remains in our mind and on which we pass judgment when the actual thing is done? What is our notion of a scientific or philosophical system? Great thinkers have vast premonitory glimpses of schemes of relation between terms, which hardly even as verbal images enter the mind, so rapid is the whole process.[53] We all of us have this permanent consciousness of whither our thought is going. It is a feeling like any other, a feeling of what thoughts are next to arise, before they have arisen. This field of view of consciousness varies very much in extent, depending largely on the degree of mental freshness or fatigue. When very fresh, our minds carry an immense horizon with them. The present image shoots its perspective far before it, irradiating in advance the regions in which lie the thoughts as yet unborn. Under ordinary conditions the halo of felt relations is much more circumscribed. And in states of extreme brain-fag the horizon is narrowed almost to the passing word,—the associative machinery, however, providing for the next word turning up in orderly sequence, until at last the tired thinker is led to some kind of a conclusion. At certain moments he may find himself doubting whether his thoughts have not come to a full stop; but the vague sense of a *plus ultra* makes him ever struggle on towards a more

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[53] Mozart describes thus his manner of composing: first bits and crumbs of the piece come and gradually join together in his mind then the soul getting warmed to the work, the thing grows more and more, "and I spread it out broader and clearer, and at last it gets almost finished in my head, even when it is a long piece, so that I can see the whole of it at a single glance in my mind, as if it were a beautiful painting or a handsome human being; in which way I do not hear it in my imagination at all as a succession - the way it must come later - but all at once, as it were. It is a rare feast All the inventing and making goes on in me as in a beautiful strong dream. But the best of all is the hearing of it all at once."

definite expression of what it may be; whilst the slowness of his utterance shows how difficult, under such conditions, the labor of thinking must be. The awareness that our *definite* thought has come to a stop is an entirely different thing from the awareness that our thought is definitively completed. The expression of the latter state of mind is the falling inflection which betokens that the sentence is ended, and silence. The expression of the former state is 'hemming and hawing,' or else such phrases as '*et cetera*,' or 'and so forth.' But notice that every part of the sentence to be left incomplete feels differently as it passes, by reason of the premonition we have that we shall be unable to end it. The 'and so forth' casts its shadow back, and is as integral a part of the object of the thought as the distinctest of images would be.

Again, when we use a common noun, such as *man*, in a universal sense, as signifying all possible men, we are fully aware of this intention on our part, and distinguish it carefully from our intention when we mean a certain group of men, or a solitary individual before us. In the chapter on Conception we shall see how important this difference of intention is. It casts its influence over the whole of the sentence, both before and after the spot in which the word *man* is used.

Nothing is easier than to symbolize all these facts in terms of brain-action. Just as the echo of the *whence*, the sense of the starting point of our thought, is probably due to the dying excitement of processes but a moment since vividly aroused; so the sense of the whither, the foretaste of the terminus, must be due to the waxing excitement of tracts or processes which, a moment hence, will be the cerebral correlatives of some thing which a moment hence will be vividly present to the thought. Represented by a curve, the neurosis underlying consciousness must at any moment be like this:

Fig. 27.

Each point of the horizontal line stands for some brain-tract or process. The height of the curve above the line stands for the intensity of the process. All the processes are *present*, in the intensities shown by the curve. But those before the latter's apex *were* more intense a moment ago; those after it *will be* more intense a moment hence. If I recite *a, b, c, d, e, f, g,* at the moment of uttering *d*, neither *a, b, c,* nor *e, f, g,* are out of my consciousness altogether, but both, after their respective fashions, 'mix their dim lights' with the stronger one of the *d*, because their neuroses are both awake in some degree.

There is a common class of mistakes which shows how brain-processes begin to be excited before the thoughts attached to them are *due*—due, that is, in substantive and vivid form. I mean those mistakes of speech or writing by which, in Dr. Carpenter's words, "we mispronounce or misspell a word, by introducing into it a letter or syllable of some other, whose turn is shortly to come; or, it may be, the whole of the anticipated word is substituted for the one which ought to have been expressed."[54] In these cases one of two things must have happened: either some local accident of nutrition *blocks* the process that is *due*, so that other processes discharge that ought as yet to be but nascently aroused; or some opposite local accident *furthers* the *latter processes* and makes them explode before their time. In the chapter on Association of Ideas, numerous instances will come before us of the actual effect on consciousness of neuroses not yet maximally aroused.

It is just like the 'overtones' in music. Different instruments give the 'same note,' but each in a different voice, because each gives more than that note, namely, various upper harmonics of it which differ from one instrument to another. They are not separately heard by the ear; they blend with the fundamental note, and suffuse it, and alter it; and even so do the waxing and waning brain-processes at every moment blend with and suffuse and alter the psychic effect of the processes which are at their culminating point.

Let us use the words *psychic overtone, suffusion,* or *fringe*, to designate the influence of a faint brain-process upon our thought, as it makes it aware of relations and objects but dimly perceived.[55]

If we then consider the *cognitive function* of different states of mind, we may feel assured that the difference between those that are mere 'acquaintance,' and those that are 'knowledges-*about*' (see p. 144) is reducible almost entirely to the absence or presence of psychic fringes or

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[54] *Mental Physiology*, sect. 236. Dr. Carpenter's explanation differs materially from that given in the text.

[55] *Cf*. also S. Stricker: *Vorlesungen über allg. u. exp. Pathologie* (1879), pp 462-463, 501, 547; Romanes: *Origin of Human Faculty,* p. 82. It is so hard to make one's self clear that I may advert to a misunderstanding of my views by the late Prof. Thos. Maguire of Dublin (*Lectures on Philosophy*, 1885). This author considers that by the "fringe" I mean some sort of psychic material by which sensations in themselves separate are made to cohere together, and wittily says that I ought to "see that uniting sensations by their 'fringes' is more vague than to construct the universe out of oysters by platting their beards" (p. 211). But the fringe, as I use the word, means nothing like this; it is part of the *object cognized* - substantive *qualities* and *things* appearing to the mind in a *fringe of relations*. Some parts - the transitive parts - of our stream of thought cognize the relations rather than the things; but both the transitive and the substantive parts form one continuous stream, with no discrete "sensations" in it such as Prof. Maguire supposes, and supposes me to suppose, to be there.

overtones. Knowledge *about* a thing is knowledge of its relations. Acquaintance with it is limitation to the bare impression which it makes. Of most of its relations we are only aware in the penumbral nascent way of a 'fringe' of unarticulated affinities about it. And, before passing to the next topic in order, I must say a little of this sense of affinity, as itself one of the most interesting features of the subjective stream.

In all our voluntary thinking there is some topic or subject about which all the members of the thought revolve. Half the time this topic is a problem, a gap we cannot yet fill with a definite picture, word, or phrase, but which, in the manner described some time back, influences us in an intensely active and determinate psychic way. Whatever may be the images and phrases that pass before us, we feel their relation to this aching gap. To fill it up is our thoughts' destiny. Some bring us nearer to that consummation. Some the gap negates as quite irrelevant. Each swims in a felt fringe of relations of which the aforesaid gap is the term. Or instead of a definite gap we may merely carry a mood of interest about with us. Then, however vague the mood, it will still act in the same way, throwing a mantle of felt affinity over such representations, entering the mind, as suit it, and tingeing with the feeling of tediousness or discord all those with which it has no concern. Relation, then, to our topic or interest is constantly felt in the fringe, and particularly the relation of harmony and discord, of furtherance or hindrance of the topic. When the sense of furtherance is there, we are 'all right;' with the sense of hindrance we are dissatisfied and perplexed, and cast about us for other thoughts. Now *any* thought the quality of whose fringe lets us feel ourselves 'all right,' is an acceptable member of our thinking, whatever kind of thought it may otherwise be. Provided we only feel it to have a place in the scheme of relations in which the interesting topic also lies, that is quite sufficient to make of it a relevant and appropriate portion of our train of ideas.

For the important thing about a train of thought is its conclusion. That is the *meaning*, or, as we say, the topic of the thought. That is what abides when all its other members have faded from memory. Usually this conclusion is a word or phrase or particular image, or practical attitude or resolve, whether rising to answer a problem or fill a pre-existing gap that worried us, or whether accidentally stumbled on in revery. In either case it stands out from the other segments of the stream by reason of the peculiar interest attaching to it. This interest *arrests* it, makes a sort of crisis of it when it comes, induces attention upon it and makes us treat it in a substantive way.

The parts of the stream that precede these substantive conclusions are but the means of the latter's attainment. And, provided the same conclusion be reached, the means may be as mutable as we like, for the 'meaning' of the stream of thought will be the same. What difference does it make what the

means are? "*Qu'importe le flacon, pourvu qu'on ait l'ivresse?*" The relative unimportance of the means appears from the fact that when the conclusion is there, we have always forgotten most of the steps preceding its attainment. When we have uttered a proposition, we are rarely able a moment afterwards to recall our exact words, though we can express it in different words easily enough. The practical upshot of a book we read remains with us, though we may not recall one of its sentences.

The only paradox would seem to lie in supposing that the fringe of felt affinity and discord can be the same in two heterogeneous sets of images. Take a train of words passing through the mind and leading to a certain conclusion on the one hand, and on the other hand an almost wordless set of tactile, visual and other fancies leading to the same conclusion. Can the halo, fringe, or scheme in which we feel the words to lie be the same as that in which we feel the images to lie? Does not the discrepancy of terms involve a discrepancy of felt relations among them?

If the terms be taken *quâ* mere sensations, it assuredly does. For instance, the words may rhyme with each other,—the visual images can have no such affinity as *that*. But *quâ* thoughts, *quâ* sensations *understood*, the words have contracted by long association fringes of mutual repugnance or affinity with each other and with the conclusion, which run exactly parallel with like fringes in the visual, tactile and other ideas. The most important element of these fringes is, I repeat, the mere feeling of harmony or discord, of a right or wrong direction in the thought. Dr. Campbell has, so far as I know, made the best analysis of this fact, and his words, often quoted, deserve to be quoted again. The chapter is entitled "What is the cause that nonsense so often escapes being detected, both by the writer and by the reader?" The author, in answering this question, makes (*inter alia*) the following remarks:[56]

> That connection [he says] or relation which comes gradually to subsist among the different words of a language, in the minds of those who speak it,... is merely consequent on this, that those words are employed as signs of connected or related things. It is an axiom in geometry that things equal to the same thing are equal to one another. It may, in like manner, be admitted as an axiom in psychology that ideas associated by the same idea will associate one another. Hence it will happen that if, from experiencing the connection of two things, there results, as infallibly there will result, an association between the ideas or notions annexed to them, as each idea will moreover be associated by its sign, there will likewise be an association between the ideas of the signs. Hence the sounds considered as signs will be conceived to have a connection analogous to that which subsisteth among the things signified; I say, the sounds considered as signs; for this way of considering them constantly attends us in speaking, writing, hearing, and reading. When we purposely abstract from it, and regard them merely

[56] Georde Campbell: *Philosophy of Rhetoric,* book II, chap. VII.

as sounds, we are instantly sensible that they are quite unconnected, and have no other relation than what ariseth from similitude of tone or accent. But to consider them in this manner commonly results from previous design, and requires a kind of effort which is not exerted in the ordinary use of speech. In ordinary use they are regarded solely as signs, or, rather, they are confounded with the things they signify; the consequence of which is that, in the manner just now explained, we come insensibly to conceive a connection among them of a very different sort from that of which sounds are naturally susceptible.
Now this conception, habit, or tendency of the mind, call it which you please, is considerably strengthened by the frequent use of language and by the structure of it. Language is the sole channel through which we communicate our knowledge and discoveries to others, and through which the knowledge and discoveries of others are communicated to us. By reiterated recourse to this medium, it necessarily happens that when things are related to each other, the words signifying those things are more commonly brought together in discourse. Hence the words and names by themselves, by customary vicinity, contract in the fancy a relation additional to that which they derive purely from being the symbols of related things. Farther, this tendency is strengthened by the structure of language. All languages whatever, even the most barbarous, as far as hath yet appeared, are of a regular and analogical make. The consequence is that similar relations in things will be expressed similarly; that is, by similar inflections, derivations, compositions, arrangement of words, or juxtaposition of particles, according to the genius or grammatical form of the particular tongue. Now as, by the habitual use of a language (even though it were quite irregular), the signs would insensibly become connected in the imagination wherever the things signified are connected in nature, so, by the regular structure of a language, this connection among the signs is conceived as analogous to that which subsisteth among their archetypes.

If we know English and French and begin a sentence in French, all the later words that come are French; we hardly ever drop into English. And this affinity of the French words for each other is not something merely operating mechanically as a brain-law, it is something we feel at the time. Our understanding of a French sentence heard never falls to so low an ebb that we are not aware that the words linguistically belong together. Our attention can hardly so wander that if an English word be suddenly introduced we shall not start at the change. Such a vague sense as this of the words belonging together is the very minimum of fringe that can accompany them, if ‘thought’ at all. Usually the vague perception that all the words we hear belong to the same language and to the same special vocabulary in that language, and that the grammatical sequence is familiar, is practically equivalent to an admission that what we hear is sense. But if an unusual foreign word be introduced, if the grammar trip, or if a term from an incongruous vocabulary suddenly appear, such as ‘rat-trap’ or ‘plumber’s bill’ in a philosophical discourse, the sentence detonates, as it were, we receive a shock from the incongruity, and the drowsy assent is

gone. The feeling of rationality in these cases seems rather a negative than a positive thing, being the mere absence of shock, or sense of discord, between the terms of thought.

So delicate and incessant is this recognition by the mind of the mere fitness of words to be mentioned together that the slightest misreading, such as 'casualty' for 'causality,' or 'perpetual' for 'perceptual,' will be corrected by a listener whose attention is so relaxed that he gets no idea of the *meaning* of the sentence at all.

Conversely, if words do belong to the same vocabulary, and if the grammatical structure is correct, sentences with absolutely no meaning may be uttered in good faith and pass unchallenged. Discourses at prayer-meetings, reshuffling the same collection of cant phrases, and the whole genus of penny-a-line-isms and newspaper-reporter's flourishes give illustrations of this. "The birds filled the tree-tops with their morning song, making the air moist, cool, and pleasant," is a sentence I remember reading once in a report of some athletic exercises in Jerome Park. It was probably written unconsciously by the hurried reporter, and read uncritically by many readers. An entire volume of 784 pages lately published in Boston[57] is composed of stuff like this passage picked out at random:

> The flow of the efferent fluids of all these vessels from their outlets at the terminal loop of each culminate link on the surface of the nuclear organism is continuous as their respective atmospheric fruitage up to the altitudinal limit of their expansibility, whence, when atmosphered by like but coalescing essences from higher altitudes,—those sensibly expressed as the essential qualities of external forms,—they descend, and become assimilated by the afferents of the nuclear organism.[58]

There are every year works published whose contents show them to be by real lunatics. To the reader, the book quoted from seems pure nonsense from beginning to end. It is impossible to divine, in such a case, just what sort of feeling of rational relation between the words may have appeared to the author's mind. The border line between objective sense and nonsense is hard to draw; that between subjective sense and nonsense, impossible. Subjectively, any collocation of words may make sense—even the wildest

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[57] *Substantialism, or Philosophy of Knowledge,* by "Jean Story" (1879).

[58] M. G. Trade, quoting (in Delboeuf, *Le Sommeil et les rêves* [1885], p. 226) some nonsense-verses from a dream, say they "show how prosodic forms may subsist in a mind from which logical rules are effaced. ... I was able, in dreaming, to to preserve the faculty of finding two words which rhymed, to appreciate the rhyme, to fill up the verse as it first presented itself with other words which, added, gave the right number of syllables, and yet I was ignorant of the sense of the words. ... Thus we have the extraordinary fact that the words called each other up, without calling up their sense. ... Even when awake, it is more difficult to ascend to the meaning of a word than to pass from one word to another or to put it other- wise, *it is harder to be a thinker than to be a rhetorician*, and on the whole nothing is com- moner than trains of words not understood."

words in a dream—if one only does not doubt their belonging together. Take the obscurer passages in Hegel: it is a fair question whether the rationality included in them be anything more than the fact that the words all belong to a common vocabulary, and are strung together on a scheme of predication and relation,—immediacy, self-relation, and what not,—which has habitually recurred. Yet there seems no reason to doubt that the subjective feeling of the rationality of these sentences was strong in the writer as he penned them, or even that some readers by straining may have reproduced it in themselves.

To sum up, certain kinds of verbal associate, certain grammatical expectations fulfilled, stand for a good part of our impression that a sentence has a meaning and is dominated by the Unity of one Thought. Nonsense in grammatical form sounds half rational; sense with grammatical sequence upset sounds nonsensical; e.g., "Elba the Napoleon English faith had banished broken to be Saint because Helena at." Finally, there is about each word the psychic 'overtone' of feeling that it brings us nearer to a forefelt conclusion. Suffuse all the words of a sentence, as they pass, with these three fringes or haloes of relation, let the conclusion seem worth arriving at, and all will admit the sentence to be an expression of thoroughly continuous, unified, and rational thought.[59]

Each word, in such a sentence, is felt, not only as a word, but as having a *meaning*. The 'meaning' of a word taken thus dynamically in a sentence may be quite different from its meaning when taken statically or without context. The dynamic meaning is usually reduced to the bare fringe we have described, of felt suitability or unfitness to the context and conclusion. The static meaning, when the word is concrete, as 'table,' 'Boston,' consists of sensory images awakened; when it is abstract, as 'criminal legislation,' 'fallacy,' the meaning consists of other words aroused, forming the so-called 'definition.'

Hegel's celebrated dictum that pure being is identical with pure nothing results from his taking the words statically, or without the fringe they wear in a context. Taken in isolation, they agree in the single point of awakening no sensorial images. But taken dynamically, or as significant,—as

[59] We think it odd that young children should listen with such rapt attention to the reading of stories expressed in words half of which the}' do not understand, and of none of which they ask the meaning. But their thinking is in form just what ours is when it is rapid. Both of us make flying leaps over large portions of the sentences uttered and we give attention only to substantive starting points, turning points, and conclusions here and there. All the rest, "substantive" and separately intelligible as it may *potentially* be, actually serves only as so much transitive material. It is *internodal* consciousness, giving us the sense of continuity, but having no significance apart from its mere gap-filling function. The children probably feel no gap when through a lot of unintelligible words they are swiftly carried to a familiar and intelligible terminus.

thought,—their fringes of relation, their affinities and repugnances, their function and meaning, are felt and understood to be absolutely opposed. Such considerations as these remove all appearance of paradox from those cases of extremely deficient visual imagery of whose existence Mr. Galton has made us aware (see below). An exceptionally intelligent friend informs me that he can frame no image whatever of the appearance of his breakfast-table. When asked how he then remembers it at all, he says he simple '*knows*' that it seated four people, and was covered with a white cloth on which were a butter-dish, a coffee-pot, radishes, and so forth. The mind-stuff of which this 'knowing' is made seems to be verbal images exclusively. But if the words 'coffee,' 'bacon,' 'muffins,' and 'eggs' lead a man to speak to his cook, to pay his bills, and to take measures for the morrow's meal exactly as visual and gustatory memories would, why are they not, for all practical intents and purposes, as good a kind of material in which to think? In fact, we may suspect them to be for most purposes better than terms with a richer imaginative coloring. The scheme of relationship and the conclusion being the essential things in thinking, that kind of mind-stuff which is handiest will be the best for the purpose. Now words, uttered or unexpressed, are the handiest mental elements we have. Not only are they very *rapidly* revivable, but they are revivable as actual sensations more easily than any other items of our experience. Did they not possess some such advantage as this, it would hardly be the case that the older men are and the more effective as thinkers, the more, as a rule, they have lost their visualizing power and depend on words. This was ascertained by Mr. Galton to be the case with members of the Royal Society. The present writer observes it in his own person most distinctly. On the other hand, a deaf and dumb man can weave his tactile and visual images into a system of thought quite as effective and rational as that of a word-user. *The question whether thought is possible without language* has been a favorite topic of discussion among philosophers. Some interesting reminiscences of his childhood by Mr. Ballard, a deaf-mute instructor in the National College at Washington, show it to be perfectly possible. A few paragraphs may be quoted here.

> In consequence of the loss of my hearing in infancy, I was debarred from enjoying the advantages which children in the full possession of their senses derive from the exercises of the common primary school, from the every-day talk of their school-fellows and playmates, and from the conversation of their parents and other grown-up persons.
> I could convey my thoughts and feelings to my parents and brothers by natural signs or pantomime, and I could understand what they said to me by the same medium; our intercourse being, however, confined to the daily routine of home affairs and hardly going beyond the circle of my own observation....

My father adopted a course which he thought would, in some measure, compensate me for the loss of my hearing. It was that of taking me with him when business required him to ride abroad; and he took me more frequently than he did my brothers; giving, as the reason for his apparent partiality, that they could acquire information through the ear, while I depended solely upon my eye for acquaintance with affairs of the outside world....

I have a vivid recollection of the delight I felt in watching the different scenes we passed through, observing the various phases of nature, both animate and inanimate; though we did not, owing to my infirmity, engage in conversation. It was during those delightful rides, some two or three years before my initiation into the rudiments of written language, that I began to ask myself the question: *How came the world into being?* When this question occurred to my mind, I set myself to thinking it over a long time. My curiosity was awakened as to what was the origin of human life in its first appearance upon the earth, and of vegetable life as well, and also the cause of the existence of the earth, sun, moon, and stars.

I remember at one time when my eye fell upon a very large old stump which we happened to pass in one of our rides, I asked myself, 'Is it possible that the first man that ever came into the world rose out of that stump? But that stump is only a remnant of a once noble magnificent tree, and how came that tree? Why, it came only by beginning to grow out of the ground just like those little trees now coming up.' And I dismissed from my mind, as an absurd idea, the connection between the origin of man and a decaying old stump....

I have no recollection of what it was that first suggested to me the question as to the origin of things. I had before this time gained ideas of the descent from parent to child, of the propagation of animals, and of the production of plants from seeds. The question that occurred to my mind was: whence came the first man, the first animal, and the first plant, at the remotest distance of time, before which there was no man, no animal, no plant; since I knew they all had a beginning and an end.

It is impossible to state the exact order in which these different questions arose, i.e., about men, animals, plants, the earth, sun, moon, etc. The lower animals did not receive so much thought as was bestowed upon man and the earth; perhaps because I put man and beast in the same class, since I believed that man would be annihilated and there was no resurrection beyond the grave,—though I am told by my mother that, in answer to my question, in the case of a deceased uncle who looked to me like a person in sleep, she had tried to make me understand that he would awake in the far future. It was my belief that man and beast derived their being from the same source, and were to be laid down in the dust in a state of annihilation. Considering the brute animal as of secondary importance, and allied to man on a lower level, man and the earth were the two things on which my mind dwelled most.

I think I was five years old, when I began to understand the descent from parent to child and the propagation of animals. I was nearly eleven years old, when I entered the Institution where I was educated; and I remember distinctly that it was at least two years before this time that I began to ask myself the question as to the origin of the universe. My age was then about eight, not over nine years.

Of the form of the earth, I had no idea in my childhood, except that, from a look at a map of the hemispheres, I inferred there were two immense disks of matter lying near each other. I also believed the sun and moon to be round, flat plates of illuminating matter; and for those luminaries I entertained a sort of reverence on account of their power of lighting and heating the earth. I thought from their coming up and going down, travelling across the sky in so regular a manner that there must be a certain something having power to govern their course. I believed the sun went into a hole at the west and came out of another at the east, travelling through a great tube in the earth, describing the same curve as it seemed to describe in the sky. The stars seemed to me to be tiny lights studded in the sky.

The source from which the universe came was the question about which my mind revolved in a vain struggle to grasp it, or rather to fight the way up to attain to a satisfactory answer. When I had occupied myself with this subject a considerable time, I perceived that it was a matter much greater than my mind could comprehend; and I remember well that I became so appalled at its mystery and so bewildered at my inability to grapple with it that I laid the subject aside and out of my mind, glad to escape being, as it were, drawn into a vortex of inextricable confusion. Though I felt relieved at this escape, yet I could not resist the desire to know the truth; and I returned to the subject; but as before, I left it, after thinking it over for some time. In this state of perplexity, I hoped all the time to get at the truth, still believing that the more I gave thought to the subject, the more my mind would penetrate the mystery. Thus I was tossed like a shuttlecock, returning to the subject and recoiling from it, till I came to school.

I remember that my mother once told me about a being up above, pointing her finger towards the sky and with a solemn look on her countenance. I do not recall the circumstance which led to this communication. When she mentioned the mysterious being up in the sky, I was eager to take hold of the subject, and plied her with questions concerning the form and appearance of this unknown being, asking if it was the sun, moon, or one of the stars. I knew she meant that there was a living one somewhere up in the sky; but when I realized that she could not answer my questions, I gave it up in despair, feeling sorrowful that I could not obtain a definite idea of the mysterious living one up in the sky.

One day, while we were haying in a field, there was a series of heavy thunder-claps. I asked one of my brothers where they came from. He pointed to the sky and made a zigzag motion with his finger, signifying lightning. I imagined there was a great man somewhere in the blue vault, who made a loud noise with his voice out of it; and each time I heard[60] a thunder-clap I

[60] Not literally *heard*, of course. Deaf-mutes are quick to perceive shocks and jars that can be felt, even when so slight as to be unnoticed by those who can hear.

was frightened, and looked up at the sky, fearing he was speaking a threatening word.[61]

Here we may pause. The reader sees by this time that it makes little or no difference in what sort of mind-stuff, in what quality of imagery, his thinking goes on. The only images *intrinsically* important are the halting-places, the substantive conclusions, provisional or final, of the thought. Throughout all the rest of the stream, the feelings of relation are everything, and the terms related almost naught. These feelings of relation, these psychic overtones, halos, suffusions, or fringes about the terms, may be the same in very different systems of imagery. A diagram may help to accentuate this indifference of the mental means where the end is the same. Let *A* be some experience from which a number of thinkers start. Let *Z* be the practical conclusion rationally inferrible from it. One gets to the conclusion by one line, another by another; one follows a course of English, another of German, verbal imagery. With one, visual images predominate; with another, tactile. Some trains are tinged with emotions, others not; some are very abridged, synthetic and rapid, others, hesitating and broken into many steps. But when the penultimate terms of all the trains, however differing *inter se*, finally shoot into the same conclusion, we say and rightly say, that all the thinkers have had substantially the same thought. It would probably astound each of them beyond measure to be let into his neighbor's mind and to find how different the scenery there was from that in his own.

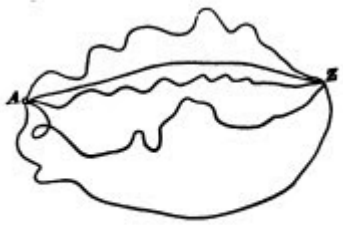

Fig. 28

Thought is in fact a kind of Algebra, as Berkeley long ago said, "in which, though a particular quantity be marked by each letter, yet to proceed right, it is not requisite that in every step each letter suggest to your thoughts that particular quantity it was appointed to stand for." Mr. Lewes has developed this algebra-analogy so well that I must quote his words:

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[61] Quoted by Samuel Porter: "Is Thought Possible without Language?" in *Princeton Review,* 57th year, pp. 108-12 (Lan. 1881?). *Cf.* also W. W. Ireland: *The Blot upon the Brain* (1886), Paper X, part II; G. J. Romanes: *Mental Evolution in Man,* pp. 81-83, and references therein made. Prof. Max Müller gives a very complete history of this controversy in pp. 30-64 of his *Science of Thought* (1887). His own view is that thought and speech are inseparable but under speech he includes any conceivable sort of symbolism or even mental imagery, and he makes no allowance for the wordless summary glimpses which we have of systems of relation and direction.

The leading characteristic of algebra is that of operation on relations. This also is the leading characteristic of Thought. Algebra cannot exist without values, nor Thought without Feelings. The operations are so many blank forms till the values are assigned. Words are vacant sounds, ideas are blank forms, unless they symbolize images and sensations which are their values. Nevertheless it is rigorously true, and of the greatest importance, that analysts carry on very extensive operations with blank forms, never pausing to supply the symbols with values until the calculation is completed; and ordinary men, no less than philosophers, carry on long trains of thought without pausing to translate their ideas (words) into images.... Suppose some one from a distance shouts 'a lion!' At once the man starts in alarm.... To the man the word is not only an ... expression of all that he has seen and heard of lions, capable of recalling various experiences, but is also capable of taking its place in a connected series of thoughts without recalling any of those experiences, without reviving an image, however faint, of the lion—simply as a sign of a certain relation included in the complex so named. Like an algebraic symbol it may be operated on without conveying other significance than an abstract relation: it is a sign of Danger, related to fear with all its motor sequences. Its logical position suffices.... Ideas are *substitutions* which require a secondary process when what is symbolized by them is translated into the images and experiences it replaces; and this secondary process is frequently not performed at all, generally only performed to a very small extent. Let anyone closely examine what has passed in his mind when he has constructed a chain of reasoning, and he will be surprised at the fewness and faintness of the images which have accompanied the ideas. Suppose you inform me that 'the blood rushed violently from the man's heart, quickening his pulse at the sight of his enemy.' Of the many latent images in this phrase, how many were salient in your mind and in mine? Probably two—the man and his enemy—and these images were faint. Images of blood, heart, violent rushing, pulse, quickening, and sight, were either not revived at all, or were passing shadows. Had any such images arisen, they would have hampered thought, retarding the logical process of judgment by irrelevant connections. The symbols had substituted *relations* for these *values*.... There are no images of two things and three things, when I say 'two and three equal five;' there are simply familiar symbols having precise relations.... The verbal symbol 'horse,' which stands for all our experiences of horses, serves all the purposes of Thought, without recalling one of the images clustered in the perception of horses, just as the sight of a horse's form serves all the purposes of *recognition* without recalling the sound of its neighing or its tramp, its qualities as an animal of draught, and so forth.[62]

It need only be added that as the algebrist, though the sequence of his terms is fixed by their relations rather than by their several values, must give a real value to the *final* one he reaches; so the thinker in words must let his concluding word or phrase be translated into its full

[62] *Problems of Life and Mind,* 3d Series, Problem IV, chap. 5. *Cf.* also Victor Egger: *La Parole intérieure* (Paris, 1881), chap. VI.

sensible-image-value, under penalty of the thought being left unrealized and pale.
This is all I have to say about the sensible continuity and unity of our thought as contrasted with the apparent discreteness of the words, images, and other means by which it seems to be carried on. Between all their substantive elements there is 'transitive' consciousness, and the words and images are 'fringed,' and not as discrete as to a careless view they seem.
Let us advance now to the next head in our description of Thought's stream.

Psychology, 299a-311a esp 300a-301a, 307a-308a, 310b-311a

THE SENSE OF SAMENESS.
In Chapter VIII, p. 144, the distinction was drawn between two kinds of knowledge of things, bare acquaintance with them and knowledge about them. The possibility of two such knowledges depends on a fundamental psychical peculiarity which may be entitled "*the principle of constancy in the mind's meanings*" and which may be thus expressed: "*The same matters can be thought of in successive portions of the mental stream, and some of these portions can know that they mean the same matters which the other portions meant.*" One might put it otherwise by saying that "*the mind can always intend, and know when it intends, to think of the Same.*"
This *sense of sameness* is the very keel and backbone of our thinking. We saw in Chapter X how the consciousness of personal identity reposed on it, the present thought finding in its memories a warmth and intimacy which it recognizes as the same warmth and intimacy it now feels. This sense of identity of the knowing subject is held by some philosophers to be the only vehicle by which the world hangs together. It seems hardly necessary to say that a sense of identity of the known object would perform exactly the same unifying function, even if the sense of subjective identity were lost. And without the intention to think of the same outer things over and over again, and the sense that we were doing so, our sense of our own personal sameness would carry us but a little way towards making a universe of our experience.
Note, however, that we are in the first instance speaking of the sense of sameness from the point of view of the mind's structure alone, and not from the point of view of the universe. We are psychologizing, not philosophizing, That is, we do not care whether there be any *real* sameness in *things* or not, or whether the mind be true or false in its assumptions of it. Our principle only lays it down that the mind makes continual use of the *notion* of sameness, and if deprived of it, would have a different structure from what it has. In a word, the principle that the mind can mean the Same

is true of its *meanings*, but not necessarily of aught besides.[63] The mind must conceive as possible that the Same should be before it, for our experience to be the sort of thing it is. Without the psychological sense of identity, sameness might rain down upon us from the outer world for ever and we be none the wiser. With the psychological sense, on the other hand, the outer world might be an unbroken flux, and yet we should perceive a repeated experience. Even now, the world may be a place in which the same thing never did and never will come twice. The thing we mean to point at may change from top to bottom and we be ignorant of the fact. But in our meaning itself we are not deceived; our intention is to think of the same. The name which I have given to the principle, in calling it the law of constancy in our meanings, accentuates its subjective character, and justifies us in laying it down as the most important of all the features of our mental structure.

Not all psychic life need be assumed to have the sense of sameness developed in this way. In the consciousness of worms and polyps, though the same realities may frequently impress it, the feeling of sameness may seldom emerge. We, however, running back and forth, like spiders on the web they weave, feel ourselves to be working over identical materials and thinking them in different ways. And the man who identifies the materials most is held to have the most philosophic human mind.

CONCEPTION DEFINED.

The function by which we thus identify a numerically distinct and permanent subject of discourse is called conception; and the thoughts which are its vehicles are called *concepts*. But the word 'concept' is often used as if it stood for the object of discourse itself; and this looseness feeds such evasiveness in discussion that I shall avoid the use of the expression concept altogether, and speak of 'conceiving state of mind,' or something similar, instead. The word 'conception' is unambiguous. It properly denotes neither the mental state nor what the mental state signifies, but the relation between the two, namely, the *function* of the mental state in signifying just that particular thing. It is plain that one and the same mental state can be the vehicle of many conceptions, can mean a particular thing, and a great deal more besides. If it has such a multiple conceptual function, it may be called an act of compound conception.

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[63] There are two other 'principles of identity' in philosophy. The *ontological* one asserts that every real thing is what it is, that *a* is *a*, and *b, b*. The *logical* one says that what is once true of the subject of a judgment is always true of that subject. The ontological law is a tautological truism; the logical principle is already more, for it implies subjects unalterable by time. The *psychological* law also implies facts which might not be realized: there might be no succession of thoughts; or if there were, the later ones might not think of the earlier; or if they did, they might not recall the content thereof; or, recalling the content, they might not take it as 'the same' with anything else.

We may conceive realities supposed to be extra-mental, as steam-engine; fictions, as mermaid; or mere *entia rationis*, like difference or nonentity. But whatever we do conceive, our conception is of that and nothing else—nothing else, that is, *instead* of that, though it may be of much else *in addition* to that. Each act of conception results from our attention singling out some one part of the mass of matter for thought which the world presents, and holding fast to it, without confusion.[64] Confusion occurs when we do not know whether a certain object proposed to us is the same with one of our meanings or not; so that the conceptual function requires, to be complete, that the thought should not only say 'I mean this,' but also say 'I don't mean that.'[65]

Each conception thus eternally remains what it is, and never can become another. The mind may change its states, and its meanings, at different times; may drop one conception and take up another, but the dropped conception can in no intelligible sense be said to *change into* its successor. The paper, a moment ago white, I may now see to have been scorched black. But my conception 'white' does not change into my conception 'black.' On the contrary, it stays alongside of the objective blackness, as a different meaning in my mind, and by so doing lets me judge the blackness as the paper's change. Unless it stayed, I should simply say 'blackness' and know no more. Thus, amid the flux of opinions and of physical things, the world of conceptions, or things intended to be thought about, stands stiff and immutable, like Plato's Realm of Ideas.[66]

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[64] In later chapters we shall see that determinate relations exist between the various data thus fixed upon by the mind. These are called *a priori* or axiomatic relations. Simple inspection of the data enables us to perceive them; and one inspection is as effective as a million for engendering in us the conviction that between *those* data that relation must always hold. To change the relation we should have to make the data different. 'The guarantee for the uniformity and adequacy' of the data can only be the mind's own power to fix upon any objective content, and to mean that content as often as it likes. This right of the mind to 'construct' permanent ideal objects for itself out of the data of experience seems, singularly enough, to be a stumbling-block to many. Professor Robertson in his clear and instructive article 'Axioms' in the Encyclopædia Britannica (9th edition) suggests that it may only be where *movements* enter into the constitution of the ideal object (as they do in geometrical figures) that we can "*make* the ultimate relations to be what for us they must be in all circumstances." He makes, it is true, a concession in favor of conceptions of number abstracted from "subjective occurrences succeeding each other in time" because these also are acts "of construction, dependent on the power we have of voluntarily determining the flow of subjective consciousness." "The content of passive sensation," on the other hand, "may indefinitely vary beyond any control of ours." What if it do vary, so long as we can continue to think of and mean the qualities it varied from? We can 'make' ideal objects for ourselves out of irrecoverable bits of passive experience quite as perfectly as out of easily repeatable active experiences. And when we have got our objects together and compared them, we do not *make*, but *find*, their relations.

[65] Cf. Hodgson, Time and Space, § 46. Lotze, Logic, § 11.

[66] "For 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 distinct as if he had tasted only gall." (Locke's Essay bk. ii, chap. xi, § 3. Read the whole section!)

Some conceptions are of things, some of events, some of qualities. Any fact, be it thing, event, or quality, may be conceived sufficiently for purposes of identification, if only it be singled out and marked so as to separate it from other things. Simply calling it 'this' or 'that' will suffice. To speak in technical language, a subject may be conceived by its *denotation*, with no *connotation*, or a very minimum of connotation, attached. The essential point is that it should be re-identified by us as that which the talk is about; and no full representation of it is necessary for this, even when it is a fully representable thing.

In this sense, creatures extremely low in the intellectual scale may have conception. All that is required is that they should recognize the same experience again. A polyp would be a conceptual thinker if a feeling of 'Hollo! thingumbob again!' ever flitted through its mind.

Most of the objects of our thought, however, are to some degree represented as well as merely pointed out. Either they are things and events perceived or imagined, or they are qualities apprehended in a positive way. Even where we have no intuitive acquaintance with the nature of a thing, if we know any of the relations of it at all, anything *about* it, that is enough to individualize and distinguish it from all the other things which we might mean. Many of our topics of discourse are thus *problematical*, or defined by their relations only. We think of a thing *about* which certain facts must obtain, but we do not yet know how the thing will look when it is realized. Thus we conceive of a perpetual-motion machine. It is a *quæsitum* of a perfectly definite kind,—we can always tell whether the actual machines offered us do or do not agree with what we mean by it. The natural possibility or impossibility of the thing does not touch the question of its conceivability in this problematic way. 'Round square,' 'black-white-thing,' are absolutely definite conceptions; it is a mere accident, as far as conception goes, that they happen to stand for things which nature never lets us sensibly perceive.[67]

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[67] Black round things, square white things, *per contra*, Nature gives us freely enough. But the combinations which she refuses to realize may exist as distinctly, in the shape of postulates, as those which she gives may exist in the shape of positive images, in our mind. As a matter of fact, she *may* realize a warm cold thing whenever two points of the skin, so near together as not to be locally distinguished, are touched, the one with a warm, the other with a cold, piece of metal. The warmth and the cold are then often felt as if in the same objective place. Under similar conditions two objects, one sharp and the other blunt, may feel like one sharp blunt thing. The same space may appear of two colors if, by optical artifice, one of the colors is made to appear as if seen *through* the other.—Whether any two attributes whatever shall be compatible or not, in the sense of appearing or not to occupy the same place and moment, depends simply on *de facto* peculiarities of natural bodies and of our sense-organs. *Logically*, anyone combination of qualities is to the full as *conceivable* as any other, and has as distinct a meaning for thought. What necessitates this remark is the confusion deliberately kept up by certain authors (e.g. Spencer, Psychology, §§ 420-7) between the inconceivable and the not-distinctly-imaginable. How do we know *which* things we cannot imagine unless by first conceiving them, meaning *them* and not other things?

CONCEPTIONS ARE UNCHANGEABLE.

The fact that the same real topic of discourse is at one time conceived as a mere 'that' or 'that which, etc.,' and is at another time conceived with additional specifications, has been treated by many authors as a proof that conceptions themselves are fertile and self-developing. A conception, according to the Hegelizers in philosophy, 'develops its own significance,' 'makes explicit what it implicitly contained,' passes, on occasion, 'over into its opposite,' and in short loses altogether the blankly self-identical character we supposed it to maintain. The figure we viewed as a polygon appears to us now as a sum of juxtaposed triangles; the number hitherto conceived as thirteen is at last noticed to be six plus seven, or prime; the man thought honest is believed a rogue. Such changes of our opinion are viewed by these thinkers as evolutions of our conception, from within.

The facts are unquestionable; our knowledge does grow and change by rational and inward processes, as well as by empirical discoveries. Where the discoveries are empirical, no one pretends that the propulsive agency, the force that makes the knowledge develop, is mere conception. All admit it to be our continued exposure to the *thing*, with its power to impress our senses. Thus strychnin, which tastes bitter, we find will also kill, etc. Now I say that where the new knowledge merely comes from *thinking*, the facts are essentially the same, and that *to talk of self-development on the part of our conceptions is a very bad way of stating the case*. Not new sensations, as in the empirical instance, but new conceptions, are the indispensable conditions of advance.

For if the alleged cases of self-development be examined it will be found, I believe, that the new truth affirms in every case a *relation* between the original subject of conception and some new subject conceived later on. These new subjects of conception arise in various ways. Every one of our conceptions is of something which our attention originally tore out of the continuum of felt experience, and provisionally isolated so as to make of it an individual topic of discourse. Every one of them has a way, if the mind is left alone with it, of suggesting other parts of the continuum from which it was torn, for conception to work upon in a similar way. This 'suggestion' is often no more than what we shall later know as the association of ideas. Often, however, it is a sort of invitation to the mind to play, add lines, break number-groups, etc. Whatever it is, it brings new conceptions into consciousness, which latter thereupon may or may not expressly attend to the relation in which the new stands to the old. Thus I have a conception of equidistant lines. Suddenly, I know not whence, there pops into my head the conception of their meeting. Suddenly again I think of the meeting and the equidistance both together, and perceive them incompatible. "*Those* lines will never meet," I say. Suddenly again the word 'parallel' pops into my head. 'They are parallels,' I continue; and so on. Original conceptions to

start with; adventitious conceptions pushed forward by multifarious psychologic causes; comparisons and combinations of the two; resultant conceptions to end with; which latter may be of either rational or empirical relations.

As regards these relations, they are conceptions of the second degree, as one might say, and their birthplace is the mind itself. In Chapter XXVIII I shall at considerable length defend the mind's claim to originality and fertility in bringing them forth. But no single one of the mind's conceptions is fertile *of itself* as the opinion which I criticise pretends. When the several notes of a chord are sounded together, we get a new feeling from their combination. This feeling is due to the mind reacting upon that group of sounds in that determinate way, and no one would think of saying of any single note of the chord that it 'developed' of itself into the other notes or into the feeling of harmony. So of Conceptions. No one of them develops into any other. But if two of them are thought at once, their *relation* may come to consciousness, and form matter for a third conception.

Take 'thirteen' for example, which is said to develop into 'prime.' What really happens is that we compare the utterly changeless conception of thirteen with various other conceptions, those of the different multiples of two, three, four, five, and six, and ascertain that it *differs* from them all. Such difference is a freshly ascertained relation. It is only for mere brevity's sake that we call it a property of the original thirteen, the property of being prime. We shall see in the next chapter that (if we count out æsthetic and moral relations between things) the only important relations of which the mere inspection of conceptions makes us aware are relations of comparison, that is, of difference and no-difference, between them. The judgment 6 + 7 = 13 expresses the relation of *equality* between two ideal objects, 13 on the one hand and 6 + 7 on the other, successively conceived and compared. The judgments 6 + 7 > 12, or 6 + 7 < 14, express in like manner relations of inequality between ideal objects. But if it be unfair to say that the conception of 6 + 7 generates that of 12 or of 14, surely it is as unfair to say that it generates that of 13.

The conceptions of 12, 13, and 14 are each and all generated by individual acts of the mind, playing with its materials. When, comparing two ideal objects, we find them equal, the conception of one of them may be that of a whole and of the other that of all its parts. This particular case is, it seems to me, the only case which makes the notion of one conception evolving into another sound plausible. But even in this case the conception, as such, of the whole does not evolve into the conception, as such, of the parts. Let the conception of some object as a whole be given first. To begin with, it points to and identifies for future thought a certain *that*. The 'whole' in question might be one of those mechanical puzzles of which the difficulty is to unlock the parts. In this case, nobody would pretend that the

richer and more elaborate conception which we gain of the puzzle after solving it came directly out of our first crude conception of it, for it is notoriously the outcome of experimenting with our hands. It is true that, as they both mean *that same puzzle*, our earlier thought and our later thought have one conceptual function, are vehicles of one conception. But in addition to being the vehicle of this bald unchanging conception, 'that same puzzle,' the later thought is the vehicle of all those other conceptions which it took the manual experimentation to acquire. Now, it is just the same where the whole is mathematical instead of being mechanical. Let it be a polygonal space, which we cut into triangles, and of which we then affirm that it *is* those triangles. Here the experimentation (although usually done by a pencil in the hands) may be done by the unaided imagination. We hold the space, first conceived as polygonal simply, in our mind's eye until our attention wandering to and fro within it has carved it into the triangles. The triangles are a new conception, the result of this new operation. Having once conceived them, however, and compared them with the old polygon which we originally conceived and which we have never ceased conceiving, we judge them to fit exactly into its area. The earlier and later conceptions, we say, are of one and the same space. But this relation between triangles and polygon which the mind cannot help finding if it compares them at all, is very badly expressed by saying that the old conception has developed into the new. New conceptions come from new sensations, new movements, new emotions, new associations, new acts of attention, and new comparisons of old conceptions, and not in other ways. Endogenous prolification is not a mode of growth to which conceptions can lay claim. I hope, therefore, that I shall not be accused of huddling mysteries out of sight, when I insist that the psychology of conception is not the place in which to treat of those of continuity and change. Conceptions form the one class of entities that cannot under any circumstances change. They can cease to be, altogether; or they can stay, as what they severally are; but there is for them no middle way. They form an essentially discontinuous system, and translate the process of our perceptual experience, which is naturally a flux, into a set of stagnant and petrified terms. The very conception of flux itself is an absolutely changeless meaning in the mind: it signifies just that one thing, flux, immovably.—And, with this, the doctrine of the flux of the concept may be dismissed, and need not occupy our attention again.[68]

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[68] Arguments seldom make converts in matters philosophical; and some readers, I know, who find that they conceive a certain matter differently from what they did, will still prefer saying they have two different editions of the same conception, one evolved from the other, to saying they have two different conceptions of the same thing. It depends, after all, on how we define conception. We ourselves defined it as the function by which a state of mind means to think the same whereof it thought on a former occasion. Two states of mind will accordingly be two editions of the same conception just so far as either does

'ABSTRACT' IDEAS.

We have now to pass to a less excusable mistake. There are philosophers who deny that associated things can be broken asunder at all, even provisionally, by the conceiving mind. The opinion known as Nominalism says that we really never frame any conception of the partial elements of an experience, but are compelled, whenever we think it, to think it in its totality, just as it came.

I will be silent of mediæval Nominalism, and begin with Berkeley, who is supposed to have rediscovered the doctrine for himself. His asseverations against 'abstract ideas' are among the oftenest quoted passages in philosophic literature.

It is agreed [he says] on all hands that the qualities or modes of things do never really exist each of them apart by itself, and separated from all others, but are mixed, as it were, and blended together, several in the same object. But, we are told, the mind being able to consider each quality singly, or abstracted from those other qualities with which it is united, does by that means frame to itself abstract ideas. ... After this manner, it is said, we come by the abstract idea of man, or, if you please, humanity, or human nature; wherein it is true there is included color, because there is no man but has some color, but then it can be neither white, nor black, nor any particular color, because there is no one particular color wherein all men partake. So likewise there is included stature, but then it is neither tall stature nor low stature, nor yet middle stature, but something abstracted from all these. And so of the rest. ... Whether others have this wonderful faculty of abstracting their ideas, they best can tell: for myself, I find indeed I have a faculty of imagining or representing to myself the ideas of those particular things I have perceived and of variously compounding and dividing them. ... I can consider the hand, the eye, the nose, each by itself abstracted or separated from the rest of the body. But then, whatever hand or eye I imagine, it must have some particular shape and color. Likewise the idea of man that I frame to myself must be either of a white, or a black, or a tawny, a straight, or a crooked, a tall, or a low, or a middle-sized man. I cannot by any effort of thought conceive the abstract idea above described. And it is equally impossible for me to form the abstract idea of motion distinct from the body moving, and which is neither swift nor slow, curvilinear nor rectilinear; and the like may be said of all other abstract general

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mean to think what the other thought; but no farther. If either mean to think what the other did not think, it is a different conception from the other. And if either mean to think all that the other thought, *and more*, it is a different conception, so far as the *more* goes. In this last case one state of mind has two conceptual functions. Each thought decides, by its own authority, which, out of all the conceptive functions open to it, it shall now renew; with which other thought it shall identify itself as a conceiver, and just how far. "The same A which I once meant," it says, "I shall now mean again, and mean it with C as its predicate (or what not) instead of B, as before." In all this, therefore, there is absolutely no changing, but only uncoupling and recoupling of conceptions. Compound conceptions come, as functions of new states of mind. Some of these functions are the same with previous ones, some not. Any changed opinion, then, *partly* contains new editions (absolutely identical with the old, however) of former conceptions, *partly* absolutely new conceptions. The division is a perfectly easy one to make in each particular case.

ideas whatsoever. ... And there is ground to think most men will acknowledge themselves to be in my case. The generality of men which are simple and illiterate never pretend to abstract notions. It is said they are difficult, and not to be attained without pains and study.
...Now I would fain know at what time it is men are employed in surmounting that difficulty, and furnishing themselves with those necessary helps for discourse. It cannot be when they are grown up, for then it seems they are not conscious of any such painstaking; it remains therefore to be the business of their childhood. And surely the great and multiplied labor of framing abstract notions will be found a hard task for that tender age. Is it not a hard thing to imagine that a couple of children cannot prate together of their sugar-plums and rattles and the rest of their little trinkets, till they have first tacked together numberless inconsistencies, and so framed in their minds abstract general ideas, and annexed them to every common name they make use of?[69]

The note, so bravely struck by Berkeley, could not, however, be well sustained in face of the fact patent to every human being that we *can* mean color without meaning any particular color, and stature without meaning any particular height. James Mill, to be sure, chimes in heroically in the chapter on Classification of his 'Analysis'; but in his son John the nominalistic voice has grown so weak that, although 'abstract ideas' are repudiated as a matter of traditional form, the opinions uttered are really nothing but a conceptualism ashamed to call itself by its own legitimate name.[70] Conceptualism says the mind can conceive any quality or relation it pleases, and mean nothing but it, in isolation from everything else in the world. This is, of course, the doctrine which we have professed. John Mill says:

"The formation of a Concept does not consist in separating the attributes which are said to compose it from all other attributes of the same object, and enabling us to conceive those attributes, disjoined from any others. We neither conceive them, nor think them, nor cognize them in any way, as a thing apart, but solely as forming, in combination with numerous other attributes, the idea of an individual object. But, though meaning them only as part of a larger agglomeration, we have the power of fixing our attention on them, to the neglect of the other attributes with which we think them combined. *While the concentration of attention lasts, if it is sufficiently intense, we may be temporarily unconscious of any of the other attributes, and may really, for a brief interval, have nothing-present to our mind but the attributes constituent of the concept*.... General concepts, therefore, we have, properly speaking, none; we have only complex ideas of objects in the concrete: but we are able to *attend exclusively to certain parts* of the concrete idea: and by that *exclusive attention* we enable those parts to *determine exclusively the course of our thoughts* as subsequently called up by association; and are in a condition to

[69] Principles of Human Knowledge, Introduction, §§ 10, 14.
[70] 'Conceptualisme honteux,' Rabier, Psychologie, 310.

carry on a train of meditation or reasoning relating to those parts only, *exactly as if* we were able to *conceive* them separately from the rest."[71]

This is a lovely example of Mill's way of holding piously to his general statements, but conceding in detail all that their adversaries ask. If there be a better description extant, of a mind in possession of an 'abstract idea,' than is contained in the words I have italicized, I am unacquainted with it. The Berkeleyan nominalism thus breaks down.

It is easy to lay bare the false assumption which underlies the whole discussion of the question as hitherto carried on. That assumption is that ideas, in order to know, must be cast in the exact likeness of whatever things they know, and that the only things that can be known are those which ideas can resemble. The error has not been confined to nominalists. *Omnis cognitio fit per assimilationem cognoscentis et cogniti* has been the maxim, more or less explicitly assumed, of writers of every school. Practically it amounts to saying that an idea must *be* a duplicate edition of what it knows[72]—in other words, that it can only know itself—or, more shortly still, that knowledge in any strict sense of the word, as a self-transcendent function, is impossible.
Now our own blunt statements about the ultimateness of the cognitive relation, and the difference between the 'object' of the thought and its mere 'topic' or 'subject of discourse' (cf. p. 178 ff.), are all at variance with any such theory; and we shall find more and more occasion, as we advance in this book, to deny its general truth. All that a state of mind need do, in order to take cognizance of a reality, intend it, or be 'about' it, is to lead to a remoter state of mind which either acts upon the reality or resembles it. The only class of thoughts which can with any show of plausibility be said to resemble their objects are sensations. The stuff of which all our other thoughts are composed is symbolic, and a thought attests its pertinency to a topic by simply *terminating*, sooner or later, in a sensation which resembles the latter.
But Mill and the rest believe that a thought must *be* what it means, and mean what it *is*, and that if it be a picture of an entire individual, it cannot mean any part of him to the exclusion of the rest. I say nothing here of the preposterously false descriptive psychology involved in the statement that the only things we can mentally picture are individuals completely determinate in all regards. Chapter XVIII will have something to say on that point, and we can ignore it here. For even if it were true that our images

[71] Exam. of Hamilton, p. 393. Cf. also Logic, bk. ii, chap. v, § 1, and bk iv, chap ii, § 1.
[72] E.g.: "The knowledge of things must mean that the mind finds itself in them, or that, in some way, the difference between them and the mind is dissolved." (E. Caird, Philosophy of Kant, first edition, p. 553.)

were always of concrete individuals, it would not in the least follow that our meanings were of the same.

The sense of our meaning is an entirely peculiar element of the thought. It is one of those evanescent and 'transitive' facts of mind which introspection cannot turn round upon, and isolate and hold up for examination, as an entomologist passes round an insect on a pin. In the (somewhat clumsy) terminology I have used, it pertains to the 'fringe' of the subjective state, and is a 'feeling of tendency,' whose neural counterpart is undoubtedly a lot of dawning and dying processes too faint and complex to be traced. The geometer, with his one definite figure before him, knows perfectly that his thoughts apply to countless other figures as well, and that although he *sees* lines of a certain special bigness, direction, color, etc., he *means* not one of these details. When I use the word *man* in two different sentences, I may have both times exactly the same sound upon my lips and the same picture in my mental eye, but I may mean, and at the very moment of uttering the word and imagining the picture, know that I mean, two entirely different things. Thus when I say: "What a wonderful man Jones is!" I am perfectly aware that I mean by man to exclude Napoleon Bonaparte or Smith. But when I say: "What a wonderful thing Man is!" I am equally well aware that I mean to *in*clude not only Jones, but Napoleon and Smith as well. This added consciousness is an absolutely positive sort of feeling, transforming what would otherwise be mere noise or vision into something *understood*; and determining the sequel of my thinking, the later words and images, in a perfectly definite way. We saw in Chapter IX that the image *per se*, the nucleus, is *functionally* the least important part of the thought. *Our doctrine, therefore, of the 'fringe' leads to a perfectly satisfactory decision of the nominalistic and conceptualistic controversy,* so far as it touches psychology. *We must decide in favor of the conceptualists,* and affirm that the power to think things, qualities, relations, or whatever other elements there may be, isolated and abstracted from the total experience in which they appear, is the most indisputable function of our thought.

UNIVERSALS.

After abstractions, universals! The 'fringe,' which lets us believe in the one, lets us believe in the other too. An individual conception is of something restricted, in its application, to a single case. A universal or general conception is of an entire class, or of something belonging to an entire class, of things. The conception of an abstract quality is, taken by itself,

neither universal nor particular.[73] If I abstract *white* from the rest of the wintry landscape this morning, it is a perfectly definite conception, a self-identical quality which I may mean again; but, as I have not yet individualized it by expressly meaning to restrict it to this particular snow, nor thought at all of the possibility of other things to which it may be applicable, it is so far nothing but a 'that,' a 'floating adjective,' as Mr. Bradley calls it, or a topic broken out from the rest of the world. Properly it is, in this state, a singular—I have 'singled it out;' and when, later, I universalize or individualize its application, and my thought turns to mean either *this* white or *all possible* whites, I am in reality meaning two new things and forming two new conceptions.[74] Such an alteration of my meaning has nothing to do with any change in the image I may have in my mental eye, but solely with the vague consciousness that surrounds the image, of the sphere to which it is intended to apply. We can give no more definite account of this vague consciousness than has been given on pp. 161-72. But that is no reason for denying its presence.[75]

But the nominalists and traditional conceptualists find matter for an inveterate quarrel in these simple facts. Full of their notion that an idea, feeling, or state of consciousness can at bottom only be aware of its own quality; and agreeing, as they both do, that such an idea or state of consciousness is a perfectly determinate, singular, and transitory thing; they find it impossible to conceive how it should become the vehicle of a knowledge of anything permanent or universal. "To know a universal, it must be universal; for like can only be known by like," etc. Unable to reconcile these incompatibles, the knower and the known, each side immolates one of them to save the other. The nominalists 'settle the hash' of the thing known by denying it to be ever a genuine universal; the conceptualists despatch the knower by denying it to be a state of mind, in the sense of being a perishing segment of thoughts' stream, consubstantial

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[73] The traditional conceptualist doctrine is that an abstract must *eo ipso* be a universal. Even modern and independent authors like Prof. Dewey (Psychology, 207) obey the tradition: "The mind seizes upon some one aspect,... abstracts or prescinds it. This very seizure of some one element generalizes the one abstracted.... Attention, in drawing it forth, makes it a distinct content of consciousness, and thus universalizes it; it is considered no longer in its particular connection with the object, but on its own account; that is, as an idea, or what it signifies to the mind; and significance is always universal."

[74] C. F. Reid's Intellectual Powers, Essay v, chap. iii.—*Whiteness* is one thing, *the whiteness of this sheet of paper* another thing.

[75] Mr. F. H. Bradley says the conception or the 'meaning' "consists of a part of the content, cut off, fixed by the mind, and considered apart from the existence of the sign. It would not be correct to add, and referred away to another real subject; for where we think without judging, and where we deny, that description would not be applicable." This seems to be the same doctrine as ours; the application to one or to all subjects of the abstract fact conceived (i.e. its individuality or its universality), constituting a new conception. I am, however, not quite sure that Mr. Bradley steadily maintains this ground. Cf. the first chapter of his Principles of Logic. The doctrine I defend is stoutly upheld in Rosmini's Philosophical System, Introduction by Thomas Davidson, p. 43 (London, 1882).

with other facts of sensibility. They invent, instead of it, as the vehicle of the knowledge of universals, an *actus purus intellectus*, or an Ego, whose function is treated as quasi-miraculous and nothing if not awe-inspiring, and which it is a sort of blasphemy to approach with the intent to explain and make common, or reduce to lower terms. Invoked in the first instance as a vehicle for the knowledge of universals, the higher principle presently is made the indispensable vehicle of all thinking whatever, for, it is contended, "a universal element is present in every thought." The nominalists meanwhile, who dislike *actus purus* and awe-inspiring principles and despise the reverential mood, content themselves with saying that we are mistaken in supposing we ever get sight of the face of an universal; and that what deludes us is nothing but the swarm of 'individual ideas' which may at any time be awakened by the hearing of a name.
If we open the pages of either school, we find it impossible to tell, in all the whirl about universal and particular, when the author is talking about universals in the mind, and when about objective universals, so strangely are the two mixed together. James Ferrier, for example, is the most brilliant of anti-nominalist writers. But who is nimble-witted enough to count, in the following sentences from him, the number of times he steps from the known to the knower, and attributes to both whatever properties he finds in either one?

To think is to pass from the singular or particular to the idea [concept] or universal. ... Ideas are necessary because no thinking can take place without them. They are universal, inasmuch as they are completely divested of the particularity which characterizes all the phenomena of mere sensation. To grasp the nature of this universality is not easy. Perhaps the best means by which this end may be compassed is by contrasting it with the particular. It is not difficult to understand that a sensation, a phenomenon of sense, is never more than the particular which it is. As such, that is, in its strict particularity, it is absolutely unthinkable. In the very act of being thought, something more than it emerges, and this something more cannot be again the particular. ... Ten particulars *per se* cannot be thought of any more than one particular can be thought of; ... there always emerges in thought an additional something, which is the possibility of other particulars to an indefinite extent. ... The indefinite additional something which they are instances of is a universal. ... The idea or universal cannot possibly be pictured in the imagination, for this would at once reduce it to the particular. ... This inability to form any sort of picture or representation of an idea does not proceed from any imperfection or limitation of our faculties, but is a quality inherent in the very nature of intelligence. A contradiction is involved in the supposition that an idea or a universal can become the object either of sense or of the imagination. An idea is thus diametrically opposed to an image."[76]

[76] Lectures on Greek Philosophy, pp. 33-39.

The nominalists, on their side, admit a *quasi*-universal, something which we think *as if it were* universal, though it is not; and in all that they say about this something, which they explain to be 'an indefinite number of particular ideas,' the same vacillation between the subjective and the objective points of view appears. The reader never can tell whether an 'idea' spoken of is supposed to be a knower or a known. The authors themselves do not distinguish. They want to get something in the mind which shall *resemble* what is out of the mind, however vaguely, and they think that when that fact is accomplished, no farther questions will be asked. James Mill writes:[77]

"The word, man, we shall say, is first applied to an individual; it is first associated with the idea of that individual, and acquires the power of calling up the idea of him; it is next applied to another individual and acquires the power of calling up the idea of him; so of another and another, till it has become associated with an indefinite number, and has acquired the power of calling up an indefinite number of those ideas indifferently. What happens? It does call up an indefinite number of the ideas of individuals as often as it occurs; and calling them in close connection, it forms a species of complex idea of them.... It is also a fact, that when an idea becomes to a certain extent complex, from the multiplicity of the ideas it *comprehends*, it is of necessity indistinct;... and this indistinctness has, doubtless, been a main cause of the mystery which has appeared to belong to it.... It thus appears that the word *man* is not a word having a very simple idea, as was the opinion of the realists; nor a word having no idea at all, as was that of the [earlier] nominalists; but a word calling up an indefinite number of ideas, by the irresistible laws of association, and forming them into one very complex and indistinct, but not therefore unintelligible, idea."

Berkeley had already said:[78]

A word becomes general by being made the sign, not of an abstract general idea, but of many several particular ideas, any one of which it indifferently suggests to the mind. An idea which, considered in itself, is particular, becomes general by being made to represent or stand for all other particular ideas of the same sort.

'Stand for,' not *know*; 'becomes general,' not becomes *aware of something* general; 'particular ideas,' not particular *things*—everywhere the same timidity about begging the fact of knowing, and the pitifully impotent attempt to foist it in the shape of a mode of *being* of 'ideas.' If the fact to be conceived be the indefinitely numerous actual and possible members of a class, then it is assumed that if we can only get enough ideas to huddle together for a moment in the mind, the *being* of each several one of them there will be an equivalent for the *knowing*, or *meaning*, of *one* member of the class in question; and their number will be so large as to confuse our

[77] Analysis, chap. viii.
[78] Principles of Human Knowledge, Introduction, §§ 11, 12.

tally and leave it doubtful whether all the possible members of the class have thus been satisfactorily told off or not.

Of course this is nonsense. An idea neither is what it knows, nor knows what it is; nor will swarms of copies of the same 'idea,' recurring in stereotyped form, or 'by the irresistible laws of association formed into one idea,' ever be the same thing as a thought of '*all the possible members*' of a class. We must mean *that* by an altogether special bit of consciousness *ad hoc*. But it is easy to translate Berkeley's, Hume's, and Mill's notion of a swarm of ideas into cerebral terms, and so to make them stand for something real; and, in this sense, I think the doctrine of these authors less hollow than the opposite one which makes the vehicle of universal conceptions to be an *actus purus* of the soul. If each 'idea' stand for some special nascent nerve-process, then the aggregate of these nascent processes might have for its conscious correlate a psychic 'fringe,' which should be just that universal meaning, or intention that the name or mental picture employed should mean all the possible individuals of the class. Every peculiar complication of brain-processes must have some peculiar correlate in the soul. To one set of processes will correspond the thought of an indefinite taking of the extent of a word like *man*; to another set that of a particular taking; and to a third set that of a universal taking, of the extent of the same word. The thought corresponding to either set of processes, is always itself a unique and singular event, whose dependence on its peculiar nerve-process I of course am far from professing to explain.[79]

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[79] It may add to the effect of the text to quote a passage from the essay in 'Mind,' January, 1884.

"Why may we not side with the conceptualists in saying that the universal sense of a word does correspond to a mental fact of *some* kind, but at the same time, agreeing with the nominalists that all mental facts are modifications of subjective sensibility, why may we not call that fact a 'feeling'? *Man* meant for *mankind* is in short a different feeling from *man* as a mere noise, or from *man* meant for *that* man, to wit, John Smith alone. Not that the difference consists simply in the fact that, when taken universally, the word has one of Mr. Galton's 'blended' images of man associated with it. Many persons have seemed to think that these blended or, as Prof. Huxley calls them, 'generic' images are equivalent to concepts. But, in itself, a blurred thing is just as particular as a sharp thing; and the generic character of either sharp image or blurred image depends on its being felt *with its representative function*. This function is the mysterious *plus*, the understood meaning. But it is nothing applied to the image from above, no pure act of reason inhabiting a supersensible and semi-supernatural plane. It can be diagrammatized as continuous with all the other segments of the subjective stream. It is just that staining, fringe, or halo of

obscurely felt relation to masses of other imagery about to come, but not yet distinctly in focus, which we have so abundantly set forth [in Chapter IX of this book].

"If the image come unfringed, it reveals but a simple quality, thing, or event; if it come fringed, it may reveal something expressly taken universally or in a scheme of relations. The difference between thought and feeling thus reduces itself, in the last subjective analysis, to the presence or absence of 'fringe.' And this in turn reduces itself, with much probability, in the last physiological analysis, to the absence or presence of sub-excitements in other convolutions of the brain than those whose discharges underlie the more definite nucleus, the substantive ingredient, of the thought,—in this instance, the word or image it may happen to arouse.

"The contrast is not, then, as the Platonists would have it, between certain subjective facts called images and sensations, and others called acts of relating intelligence; the former being blind perishing things, knowing not even their own existence as such, whilst the latter combine the poles in the mysterious synthesis of their cognitive sweep. The contrast is really between two *aspects*, in which all mental facts without exception may be taken; their structural aspect, as being subjective, and their functional aspect, as being cognitions. In the former aspect, the highest as well as the lowest is a feeling, a peculiarly tinged segment of the stream. This tingeing is its sensitive body, the *wie ihm zu Muthe ist*, the way it feels whilst passing. In the latter aspect, the lowest mental fact as well as the highest may grasp some bit of truth as its content, even though that truth were as relationless a matter as a bare unlocalized and undated quality of pain. From the cognitive point of view, all mental facts are intellections. From the subjective point of view all are feelings. Once admit that the passing and evanescent are as real parts of the stream as the distinct and comparatively abiding; once allow that fringes and halos, inarticulate perceptions, whereof the objects are as yet unnamed, mere nascencies of cognition, premonitions, awarenesses of direction, are thoughts *sui generis*, as much as articulate imaginings and propositions are; once restore, I say, the *vague* to its psychological rights, and the matter presents no further difficulty.

"And then we see that the current opposition of Feeling to Knowledge is quite a false issue. If every feeling is at the same time a bit of knowledge, we ought no longer to talk of mental states differing by having more or less of the cognitive quality; they only differ in knowing more or less, in having much fact or little fact for their object. The feeling of a broad scheme of relations is a feeling that knows much; the feeling of a simple quality is a feeling that knows little. But the knowing itself, whether of much or of little, has the same essence, and is as good knowing in the one case as in the other. Concept and image, thus discriminated through their objects, are consubstantial in their inward nature, as modes of feeling. The one, as particular, will no longer be held to be a relatively base sort of entity, to be taken as a matter of course, whilst the other, as universal, is celebrated as a sort of standing miracle, to be adored but not explained. Both concept and image, *quâ* subjective,

Psychology, 313a

It may seem hardly necessary to add (what follows as a matter of course from pp. 149-54, and what has been implied in our assertions all along) that *nothing can be conceived twice over without being conceived in entirely different states of mind*. Thus, my arm-chair is one of the things of which I have a conception; I knew it yesterday and recognized it when I looked at it. But if I think of it to-day as the same arm-chair which I looked at yesterday, it is obvious that the very conception of it as the same is an additional complication to the thought, whose inward constitution must alter in consequence. In short, it is logically impossible that the same thing should be *known as the same* by two successive copies of the same thought. As a matter of fact, the thoughts by which we know that we mean the same thing are apt to be very different indeed from each other. We think the thing now in one context, now in another; now in a definite image, now in a symbol. Sometimes our sense of its identity pertains to the mere fringe, sometimes it involves the nucleus, of our thought. We never can break the thought asunder and tell just which one of its bits is the part that lets us know which subject is referred to; but nevertheless we always *do* know which of all possible subjects we have in mind. Introspective psychology must here throw up the sponge; the fluctuations of subjective life are too exquisite to be arrested by its coarse means. It must confine itself to bearing witness to the fact that all sorts of different subjective states do form the vehicle by which the same is known; and it must contradict the opposite view.

Psychology, 411a

THE FEELING OF PAST TIME IS A PRESENT FEELING.

If asked why we perceive the light of the sun, or the sound of an explosion, we reply, "Because certain outer forces, ether-waves or air-waves, smite upon the brain, awakening therein changes, to which the conscious perceptions, light and sound, respond." But we hasten to add that neither light nor sound *copy* or *mirror* the ether- or air-waves; they represent them

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are singular and particular. Both are moments of the stream, which come and in an instant are no more. The word universality has no meaning as applied to their psychic body or structure, which is always finite. It only has a meaning when applied to their use, import, or reference to the kind of object they may reveal. The representation, as such, of the universal object is as particular as that of an object about which we know so little that the interjection 'Ha!' is all it can evoke from us in the way of speech. Both should be weighed in the same scales, and have the same measure meted out to them whether of worship or of contempt." (Mind, ix, pp. 18-19.)

only symbolically. The *only* case, says Helmholtz, in which such copying occurs, and in which

> our perceptions can truly correspond with outer reality, is that of the *time-succession* of phenomena. Simultaneity, succession, and the regular return of simultaneity or succession, can obtain as well in sensations as in outer events. Events, like our perceptions of them, take place in time, so that the time-relations of the latter can furnish a true copy of those of the former. The sensation of the thunder follows the sensation of the lightning just as the sonorous convulsing of the air by the electric discharge reaches the observer's place later than that of the luminiferous ether.[80]

Psychology, 478a-b

Just so when we feel the tip of our cane against the ground. The peculiar sort of movement of the hand (impossible in one direction, but free in every other) which we experience when the tip touches 'the ground,' is a sign to us of the visual and tactile object which we already know under that name. We think of 'the ground' as being there and giving us the sensation of this kind of movement. The sensation, we say, comes *from* the ground. The ground's place seems to be its place; although at the same time, and for very similar practical reasons, we think of another optical and tactile object, 'the hand' namely, and consider that *its* place *also* must be the place of our sensation. In other words, we take an object or sensible content A, and confounding it with another object otherwise known, B, or with two objects otherwise known, B and C, we identify its place with their places. But in all this there is *no 'projecting'* (such as the extradition-philosophers talk of) of A out of an *original* place; no primitive location which it first occupied, *away from* these other sensations, has to be contradicted; no natural 'centre,' from which it is expelled, exists. That would imply that A aboriginally came to us in definite local relations with other sensations, for to be *out* of B and C is to be in local relation with them as much as to be *in* them is so. But it was no more out of B and C than it was in them when it first came to us. It simply had nothing to do with them. To say that we feel a sensation's seat to be 'in the brain' or 'against the eye' or 'under the skin' is to say as much *about* it and to deal with it in as non-primitive a way as to say that it is a mile off. These are all secondary perceptions, ways of defining the sensation's seat *per aliud*. They involve numberless associations, identifications, and imaginations, and admit a great deal of vacillation and uncertainty in the result.[81]

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[80] Physiol. Optik, p. 445.

[81] The intermediary and shortened locations of the lost hand and foot in the amputation cases also show this. It is easy to see why the phantom foot might continue to follow the position of the artificial one. But I confess that I cannot explain its half way-positions.

Psychology, 502a-503a

THE PERCEPTION OF 'THINGS.'

PERCEPTION AND SENSATION COMPARED.

A pure sensation we saw above, p. 456, to be an abstraction never realized in adult life. Any quality of a thing which affects our sense-organs does also more than that: it arouses processes in the hemispheres which are due to the organization of that organ by past experiences, and the result of which in consciousness are commonly described as ideas which the sensation suggests. The first of these ideas is that of the *thing* to which the sensible quality belongs. *The consciousness of particular material things present to sense* is nowadays called *perception*.[82] The consciousness of such things may be more or less complete; it may be of the mere name of the thing and its other essential attributes, or it may be of the thing's various remoter relations. It is impossible to draw any sharp line of distinction between the barer and the richer consciousness, because the moment we get beyond the first crude sensation all our consciousness is a matter of suggestion, and the various suggestions shade gradually into each other, being one and all products of the same psychological machinery of association. In the directer consciousness fewer, in the remoter more, associative processes are brought into play.

Perception thus differs from sensation by the consciousness of farther facts associated with the object of the sensation:

"When I lift my eyes from the paper on which I am writing I see the chairs and tables and walls of my room, each of its proper shape and at its proper distance. I see, from my window, trees and meadows, and horses and oxen, and distant hills. I see each of its proper size, of its proper form, and at its proper distance; and these particulars appear as immediate informations of the eye, as the colors which I see by means of it. Yet philosophy has ascertained that we derive nothing from the eye whatever but sensations of color.... How, then, is it that we receive accurate information, by the eye, of size and shape and distance? By association merely. The colors upon a body are different, according to its figure, its shape, and its size. But the sensations of color and what we may here, for brevity, call the sensations of extension, of figure, of distance, have been so often united, felt in conjunction, that the sensation of the color is never experienced without raising the ideas of the extension, the figure, the distance, in such intimate union with it, that they not only cannot be separated, but are actually supposed to be seen. The sight, as it is called, of figure, or distance, appearing as it does a simple sensation, is in reality a complex state of consciousness—a sequence in which the

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[82] The word Perception, however, has been variously used. For historical notices, see Hamilton's Lectures on Metaphysics, ii. 96. For Hamilton perception is 'the consciousness of external objects' (*ib.* 28). Spencer defines it oddly enough as "a discerning of the relation or relations between *states of consciousness* partly presentative and partly representative; which states of consciousness must be themselves known to the extent involved in the knowledge of their relations" (Psychol., § 355).

antecedent, a sensation of color, and the consequent, a number of ideas, are so closely combined by association that they appear not one idea, but one sensation."

This passage from James Mill[83] gives a clear statement of the doctrine which Berkeley in his Theory of Vision made for the first time an integral part of Psychology. Berkeley compared our visual sensations to the words of a language, which are but signs or occasions for our intellects to pass to what the speaker means. As the sounds called words have no inward affinity with the ideas they signify, so neither have our visual sensations, according to Berkeley, any inward affinity with the things of whose presence they make us aware. Those things are *tangibles;* their real properties, such as shape, size, mass, consistency, position, reveal themselves only to touch. But the visible signs and the tangible significates are by long custom so "closely twisted, blended, and incorporated together, and the prejudice is so confirmed and riveted in our thoughts by a long tract of time, by the use of language, and want of reflection,"[84] that we think we *see* the whole object, tangible and visible alike, in one simple indivisible act.

Psychology, 553b-558b esp 555a-b, 558b-561 b [fn 2]
'Local Signs.'
To begin with, every sensation of the skin and every visceral sensation seems to derive from its topographic seat a peculiar shade of feeling, which it would not have in another place. And this feeling *per se* seems quite another thing from the perception of the place. Says Wundt[85]:

If with the finger we touch first the cheek and then the palm, exerting each time precisely the same pressure, the sensation shows notwithstanding a distinctly marked difference in the two cases. Similarly, when we compare the palm with the back of the hand, the nape of the neck with its anterior surface, the breast with the back; in short, any two distant parts of the skin with each other. And moreover, we easily remark, by attentively observing, that spots even tolerably close together differ in respect of the quality of their feeling. If we pass from one point of our cutaneous surface to another, we find a perfectly gradual and continuous alteration in our feeling, notwithstanding the objective nature of the contact has remained the same. Even the sensations of corresponding points on opposite sides of the body, though similar, are not identical. If, for instance, we touch first the back of one hand and then of the other, we remark a qualitative unlikeness of sensation. It must not be thought that such differences are mere matters of imagination, and that we take the

[83] Analysis, i. 97.
[84] Theory of Vision, 51.
[85] *Vorlesungen üb. Menschen u. Thierseele* (Leipzig, 1863), i. 214. See also Ladd's Physiological Psychology, pp. 396-8, and compare the account by G. Stanley Hall (Mind, x. 571) of the sensations produced by moving a blunt point lightly over the skin. Points of cutting pain, quivering, thrilling, whirling, tickling, scratching, and acceleration, alternated with each other along the surface.

sensations to be different because we represent each of them to ourselves as occupying a different place. With sufficient sharpening of the attention, we may, confining ourselves to the quality of the feelings alone, entirely abstract from their locality, and yet notice the differences quite as markedly.

Whether these local contrasts shade into each other with absolutely continuous gradations, we cannot say. But we know (continues Wundt) that

they change, when we pass from one point of the skin to its neighbor, with very different degrees of rapidity. On delicately-feeling parts, used principally for touching, such as the finger-tips, the difference of sensation between two closely approximate points is already strongly pronounced; whilst in parts of lesser delicacy, as the arm, the back, the legs, the disparities of sensation are observable only between distant spots.

The internal organs, too, have their specific *qualia* of sensation. An inflammation of the kidney is different from one of the liver; pains in joints and muscular insertions are distinguished. Pain in the dental nerves is wholly unlike the pain of a burn. But very important and curious similarities prevail throughout these differences. Internal pains, whose seat we cannot see, and have no means of knowing unless the character of the pain itself reveal it, are felt *where* they belong. Diseases of the stomach, kidney, liver, rectum, prostate, etc., of the bones, of the brain and its membranes, are referred to their proper position. Nerve-pains describe the length of the nerve. Such localizations as those of vertical, frontal, or occipital headache of intracranial origin force us to conclude that parts which are neighbors, whether inner or outer, may possess by mere virtue of that fact a common peculiarity of feeling, a respect in which their sensations agree, and which serves as a token of their proximity. These *local* colorings are, moreover, so strong that we cognize them as the same, throughout all contrasts of sensible quality in the accompanying perception. Cold and heat are wide as the poles asunder; yet if both fall on the cheek, there mixes with them something that makes them in *that respect* identical; just as, contrariwise, despite the identity of cold with itself wherever found, when we get it first on the palm and then on the cheek, some difference comes, which keeps the two experiences for ever asunder.[86]

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[86] Of the anatomical and physiological conditions of these facts we know as yet but little, and that little need not here be discussed. Two principal hypotheses have been invoked in the case of the retina. Wundt (Menschen- u. Thierseele, i. 214) called attention to the changes of color-sensibility which the retina displays as the image of the colored object passes from the fovea to the periphery. The color alters and becomes darker, and the change is more rapid in certain directions than in others. This alteration in general, however, is one of which, *as such*, we are wholly unconscious. We see the sky as bright blue all over, the modifications of the blue sensation being interpreted by us, not as differences in the objective color, but as distinctions in its locality. Lotze (Medizinische Psychologie, 333, 355), on the other hand, has pointed out the peculiar tendency which each particular point of the retina has to call forth that movement of the eyeball which

And now let us revert to the query propounded a moment since: *Can these differences of mere quality in feeling, varying according to locality yet having each sensibly and intrinsically and by itself nothing to do with position, constitute the 'susceptibilities' we mentioned, the conditions of being perceived in position, of the localities to which they belong?* The numbers on a row of houses, the initial letters of a set of words, have no intrinsic kinship with points of space, and yet they are the conditions of our knowledge of where any house is in the row, or any word in the dictionary. Can the modifications of feeling in question be tags or labels of this kind which in no wise originally reveal the position of the spot to which they are attached, but guide us to it by what Berkeley would call a 'customary tie'? Many authors have unhesitatingly replied in the affirmative; Lotze, who in his Medizinische Psychologie[87] first described the sensations in this way, designating them, thus conceived, as *local-signs*. This term has obtained wide currency in Germany, and *in speaking of the* 'local-sign theory' *hereafter, I shall always mean the theory which denies that there can be in a sensation any element of actual locality, of inherent spatial order,* any tone as it were which cries to us immediately and without further ado, 'I am *here*,' or 'I am *there*.'

If, as may well be the case, we by this time find ourselves tempted to accept the Local-sign theory in a general way, we have to clear up several farther matters. If a sign is to lead us to *the thing* it means, we must have some other source of knowledge of that thing. Either the thing has been given in a previous experience of which the sign also formed part—they are *associated*; or it is what Reid calls a 'natural' sign, that is, a feeling which, the first time it enters the mind, evokes from the native powers thereof a cognition of the thing that hitherto had lain dormant. In both cases, however, the sign is one thing, and the thing another. In the instance that now concerns us, *the sign is a quality of feeling and the thing is a position*. Now we have seen that the position of a point is not only revealed, but created, by the existence of other points to which it stands in determinate *relations. If the sign can by any machinery which it sets in motion evoke a consciousness either of the other points, or of the relations, or of both, it would seem to fulfil its function, and reveal to us the position we seek.*

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will carry the image of the exciting object from the point in question to the *fovea*. With each separate tendency to movement (as with each actual movement) we may suppose a peculiar modification of sensibility to be conjoined. This modification would constitute the peculiar local tingeing of the image by each point. See also Sully's Psychology, pp. 118-121. Prof. B. Erdman has quite lately (Vierteljahrsschrift f. wiss. Phil., x. 324-9) denied the existence of all evidence for such immanent *qualia* of feeling characterizing each locality. Acute as his remarks are, they quite fail to convince me. On the skin the *qualia* are evident, I should say. Where, as on the retina, they are less so (Kries and Auerbach), this may well be a mere difficulty of discrimination not yet educated to the analysis.

[87] 1852, p. 331.

But such a machinery is already familiar to us. It is neither more nor less than the law of habit in the nervous system. When any point of the sensitive surface has been frequently excited simultaneously with, or immediately before or after, other points, and afterwards comes to be excited alone, there will be a tendency for its perceptive nerve-centre to irradiate into the nerve-centres of the other points. Subjectively considered, this is the same as if we said that *the peculiar feeling of the first point* suggests *the feeling of the entire region with whose stimulation its own excitement has been habitually* ASSOCIATED.

Take the case of the stomach. When the epigastrium is heavily pressed, when certain muscles contract, etc., the stomach is squeezed, and its peculiar local sign awakes in consciousness simultaneously with the local signs of the other squeezed parts. There is also a sensation of total vastness aroused by the combined irritation, and *somewhere* in this the stomach-feeling seems to lie. Suppose that later a pain arises in the stomach from some non-mechanical cause. It will be tinged by the gastric local sign, and the nerve-centre supporting this latter feeling will excite the centre supporting the dermal and muscular feelings habitually associated with it when the excitement was mechanical. From the combination the same peculiar vastness will again arise. In a word, 'something' in the stomach-sensation 'reminds' us of a total space, of which the diaphragmatic and epigastric sensations also form a part, or, to express it more briefly still, suggests the neighborhood of these latter organs.[88]

Revert to the case of two excited points on a surface with an unexcited space between them. The general result of previous experience has been that when either point was impressed by an outward object, the same object also touched the immediately neighboring parts. Each point, together with its local sign, is thus associated with a circle of surrounding points, the association fading in strength as the circle grows larger. Each will revive its own circle; but when both are excited together, the strongest revival will be that due to the *combined* irradiation. Now the tract *joining the two excited points* is the only part common to the two circles. And the feelings of this whole tract will therefore awaken with considerable vividness in the imagination when its extremities are touched by an outward irritant. The mind receives with the impression of the two distinct points the vague idea

[88] Maybe the localization of intracranial pain is itself due to such association as this of local signs with each other, rather than to their qualitative similarity in neighboring parts (*supra*, p. 464); though it is conceivable that association and similarity itself should here have one and the same neural basis. If we suppose the sensory nerves from those parts of the body beneath any patch of skin to terminate in the same sensorial brain-tract as those from the skin itself, and if the excitement of any one fibre tends to irradiate through the whole of that tract, the feelings of all fibres going to that tract would presumably both have a similar intrinsic quality, and at the same time tend each to arouse the other. Since the same nerve-trunk in most cases supplies the skin and the parts beneath, the anatomical hypothesis presents nothing improbable.

of a line. The twoness of the points comes from the contrast of their local signs: the line comes from the associations into which experience has wrought these latter. If no ideal line arises we have duality without sense of interval; if the line be excited actually rather than ideally, we have the interval given with its ends, in the form of a single extended object felt. E. H. Weber, in the famous article in which he laid the foundations of all our accurate knowledge of these subjects, *laid it down as the logical requisite for the perception of two separated points, that the mind should, along with its consciousness of them, become aware of an unexcited interval as such. I have only tried to show how the known laws of experience may cause this requisite to be fulfilled.* Of course, if the local signs of the entire region offer but little qualitative contrast *inter se*, the line suggested will be but dimly defined or discriminated in length or direction from other possible lines in its neighborhood. This is what happens in the back, where consciousness can sunder two spots, whilst only vaguely apprehending their distance and direction apart.

The relation of position of the two points *is* the suggested interval or line. Turn now to the simplest case, that of *a single excited spot. How can it suggest its position?* Not by recalling any particular line unless experience have constantly been in the habit of marking or tracing some one line from it towards some one neighboring point. Now on the back, belly, viscera, etc., no such tracing habitually occurs. The consequence is that the only suggestion is that of the whole neighboring circle; i.e., *the spot simply recalls the general region in which it happens to lie.* By a process of successive construction, it is quite true that we can also get the feeling of distance between the spot and some other particular spot. Attention, by reinforcing the local sign of one part of the circle, can awaken a new circle round this part, and so *de proche en proche* we may slide our feeling down from our cheek, say, to our foot. But when we first touched our cheek we had no consciousness of the foot at all.[89] In the extremities, the lips, the tongue and other mobile parts, the case is different. We there have an instinctive tendency, when a part of lesser discriminative sensibility is touched, to move the member so that the touching object glides along it to the place where sensibility is greatest. If a body touches our hand we move the hand over it till the finger-tips are able to explore it. If the sole of our foot touches anything we bring it towards the toes, and so forth. There thus arise lines of habitual passage from all points of a member to its sensitive tip. These are the lines most readily recalled when any point is touched, and their recall is identical with the consciousness of the distance of the

[89] Unless, indeed, the foot happen to be spontaneously tingling or something of the sort at the moment. The whole surface of the body is always in a state of semi-conscious irritation which needs only the emphasis of attention, or of some accidental inward irritation, to become strong at any point.

touched point from the 'tip.' I think anyone must be aware when he touches a point of his hand or wrist that it is the relation to the finger-tips of which he is usually most conscious. Points on the forearm suggest either the finger-tips or the elbow (the latter being a spot of greater sensibility).[90] In the foot it is the toes, and so on. A point can only be cognized in its relations to the entire body at once by awakening a *visual* image of the whole body. Such awakening is even more obviously than the previously considered cases a matter of pure association.

This leads us to the eye. On the retina the fovea and the yellow spot about it form a focus of exquisite sensibility, towards which every impression falling on an outlying portion of the field is moved by an instinctive action of the muscles of the eyeball. Few persons, until their attention is called to the fact, are aware how almost impossible it is to keep a conspicuous visible object in the margin of the field of view. The moment volition is relaxed we find that without our knowing it our eyes have turned so as to bring it to the centre. This is why most persons are unable to keep the eyes steadily converged upon a point in space with nothing in it. The objects against the walls of the room invincibly attract the foveæ to themselves. If we contemplate a blank wall or sheet of paper, we always observe in a moment that we are directly looking at some speck upon it which, unnoticed at first, ended by 'catching our eye.' Thus *whenever an image falling on the point P of the retina excites attention, it more habitually moves from that point towards the fovea than in any one other direction.* The line traced thus by the image is not always a straight line. When the direction of the point from the fovea is neither vertical nor horizontal but oblique, the line traced is often a curve, with its concavity directed upwards if the direction is upwards, downwards if the direction is downwards. This may be verified by anyone who will take the trouble to make a simple experiment with a luminous body like a candle-flame in a dark enclosure, or a star. Gazing first at some point remote from the source of light, let the eye be suddenly turned full upon the latter. The luminous image will necessarily fall in succession upon a continuous series of points, reaching from the one first affected to the fovea. But by virtue of the slowness with which retinal excitements die away, the entire series of points will for an instant be visible as an after-image, displaying the above peculiarity of form according to its situation.[91] These radiating lines are neither regular nor invariable in

[90] It is true that the inside of the forearm, though its discriminative sensibility is often less than that of the outside, usually rises very prominently into consciousness when the latter is touched. Its *æsthetic* sensibility to contact is a good deal finer. We enjoy stroking it from the extensor to the flexor surface around the ulnar side more than in the reverse direction. Pronating movements give rise to contacts in this order, and are frequently indulged in when the back of the forearm feels an object against it.

[91] These facts were first noticed by Wundt: see his Beiträge, p. 140, 202. See also Lamansky, Pflüger's Archiv, xi. 418.

the same person, nor, probably, equally curved in different individuals. We are incessantly drawing them between the fovea and every point of the field of view. Objects remain in their peripheral indistinctness only so long as they are unnoticed. The moment we attend to them they grow distinct through one of these motions—which leads to the idea prevalent among uninstructed persons that we see distinctly all parts of the field of view at once. *The result of this incessant tracing of radii is that whenever a local sign P is awakened by a spot of light falling upon it, it recalls forthwith, even though the eyeball be unmoved, the local signs of all the other points which lie between P and the fovea.* It recalls them in imaginary form, just as the normal reflex movement would recall them in vivid form; and with their recall is given a consciousness more or less faint of the whole line on which they lie. In other words, no ray of light can fall on any retinal spot without the local sign of that spot revealing to us, by recalling the line of its most habitual associates, its direction and distance from the centre of the field. The fovea acts thus as the origin of a system of polar co-ordinates, in relation to which each and every retinal point has through an incessantly-repeated process of association its distance and direction determined. Were *P* alone illumined and all the rest of the field dark we should still, even with motionless eyes, know whether *P* lay high or low,

right or left, through the *ideal streak*, different from all other streaks, which *P* alone has the power of awakening.[92]

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[92] So far all has been plain sailing, but our course begins to be so tortuous when we descend into minuter detail that I will treat of the more precise determination of locality in a long note. When *P* recalls an ideal line leading to the fovea the line is felt in its entirety and but vaguely; whilst *P*, which we supposed to be a single star of actual light, stands out in strong distinction from it. The ground of the distinction between *P* and the ideal line which it terminates is manifest—*P* being vivid while the line is faint; *but why should P hold the particular position it does, at the end of the line, rather than anywhere else—for example, in its middle?* That seems something not at all manifest.
To clear up our thoughts about this latter mystery, let us take the case of an actual line of light, none of whose parts is ideal. The feeling of the line is produced, as we know, when a multitude of retinal points are excited together, each of which *when excited separately* would give rise to *one* of the feelings called local signs. Each of these signs is the feeling of a small space. From their simultaneous arousal we might well suppose a feeling of larger space to result. But why is it necessary that *in* this larger spaciousness the sign *a* should appear always at one end of the line, *z* at the other, and *m* in the middle? For though the line be a unitary streak of light, its several constituent points can nevertheless break out from it, and become alive, each for itself, under the selective eye of attention. The uncritical reader, giving his first careless glance at the subject, will say that there is no mystery in this, and that 'of course' local signs must appear alongside of each other, each in its own place;—there is no other way possible. But the more philosophic student, whose business it is to discover difficulties quite as much as to get rid of them, will reflect that it is conceivable that the partial factors might fuse into a larger space, and yet not each be located within it any more than a voice is *located* in a chorus. He will wonder how, after combining into the line, the points *can* become severally alive again: the separate puffs of a 'sirene' no longer strike the ear after they have fused into a certain pitch of sound. He will recall the fact that when, after looking at things with one eye closed, we double, by opening the other eye, the number of retinal points affected, the new retinal sensations do not as a rule appear *alongside* of the old ones and additional to them, but merely make the old ones seem larger and nearer. Why should the affection of new points on the *same* retina have so different a result? In fact, he will see no sort of logical connection between (1) the original separate local signs, (2) the line as a unit, (3) the line with the points discriminated in it, and (4) the various nerve-processes which subserve all these different things. He will suspect our local sign of being a very slippery and ambiguous sort of creature. Positionless at first, it no sooner appears in the midst of a gang of companions than it is found maintaining the strictest position of its own, and assigning place to each of its associates. How is this possible? Must we accept what we rejected a while ago as absurd, and admit the points each to have position *in se*? Or must we suspect that our whole construction has been fallacious, and that we have tried to conjure up, out of association, qualities which the associates never contained?
There is no doubt a real difficulty here; and the shortest way of dealing with it would be to confess it insoluble and ultimate. Even if position be not an intrinsic character of any one of those sensations we have called local signs, we must still admit that there is *something about* every one of them that stands for the potentiality of position, and is the *ground* why the local sign, when it gets placed at all, gets placed *here* rather than *there*. If this 'something' be interpreted as a physiological something, as a mere nerve-process, it is easy to say in a blank way that when it is excited alone, it is an 'ultimate fact' (1) that a positionless spot will appear; that when it is excited together with other similar processes, but *without* the process of discriminative attention, it is another 'ultimate fact' (2) that a unitary line will come; and that the final 'ultimate fact' (3) is that, when the nerve-process

is excited *in combination with* that other process which subserves the feeling of attention, what results will be the line with the local sign inside of it determined to a particular place. Thus we should escape the responsibility of explaining, by falling back on the everlasting inscrutability of the psycho-neural nexus. The moment we call the ground of localization physiological, we need only point out *how*, in those cases in which localization occurs, the physiological process *differs* from those in which it does not, to have done all we can possibly do in the matter. This would be unexceptionable logic, and with it we might let the matter drop, satisfied that there was no self-contradiction in it, but only the universal psychological puzzle of how a new mode of consciousness emerges whenever a fundamentally new mode of nervous action occurs.

But, blameless as such tactics would logically be on our part, let us see whether we cannot push our theoretic insight a little farther. It seems to me we can. We cannot, it is true, give a reason why the line we feel when process (2) awakens should have its own peculiar shape; nor can we explain the essence of the process of discriminative attention. But we can see why, if the brute facts be admitted that a line may have one of its parts singled out by attention at all, and that that part may appear in relation to other parts at all, the relation must be *in the line itself*,—for the line and the parts are the only things supposed to be in consciousness. And we can furthermore suggest a reason why parts appearing thus in relation to each other in a line should fall into an immutable order, and each within that order keep its characteristic place.

If a lot of such local signs all have any quality which evenly augments as we pass from one to the other, we can arrange them in an ideal serial order, in which any one local sign must lie below those with more, above those with less, of the quality in question. It must divide the series into two parts,—unless indeed it have a maximum or minimum of the quality, when it either begins or ends it.

Such an ideal series of local signs in the mind is, however, not yet identical with the feeling of a line in space. Touch a dozen points on the skin *successively*, and there seems no necessary reason why the notion of a definite line should emerge, even though we be strongly aware of a gradation of quality among the touches. We may of course symbolically arrange them in a line in our thought, but we can always distinguish between a line symbolically thought and a line directly felt.

But note now the peculiarity of the nerve-processes of all these local signs: though they may give no line when excited successively, when excited *together* they do give the actual sensation of a line in space. The sum of them is the neural process of that line; the sum of their feelings is the feeling of that line; and if we begin to single out particular points from the line, and notice them by their rank, it is impossible to see how this rank can *appear* except as an actual fixed space-position sensibly felt as a bit of the total line. The scale itself appearing as a line, rank in it must appear as a definite part of the line. If the seven notes of an octave, when heard together, appeared to the sense of hearing as an outspread *line* of sound—which it is needless to say they do not—why then no one note could be discriminated without being localized, according to its pitch, *in* the line, either as one of its extremities or as some part between.

But not alone the gradation of their quality arranges the local-sign feelings in a scale. Our *movements* arrange them also in a time-scale. Whenever a stimulus passes from point *a* of the skin or retina to point *f*, it awakens the local-sign feelings in the perfectly definite time-order *abcdef*. It cannot excite *f* until *cde* have been successively aroused. The feeling *c* sometimes is preceded by *ab*, sometimes followed by *ba*, according to the movement's direction; the result of it all being that we never feel either *a, c,* or *f*, without there clinging to it faint reverberations of the various time-orders of transition in which, throughout past experience, it has been aroused. To the local sign *a* there clings the tinge or tone, the

Psychology, 573b-574a

We can usually recover anything lost from sight by moving our attention and our eyes back in its direction; and through these constant changes every field of seen things comes at last to be thought of as always having a fringe of *other things possible to be seen* spreading in all directions round about it. Meanwhile the movements concomitantly with which the various fields alternate are also felt and remembered; and gradually (through association) this and that movement come in our thought to suggest this or that extent of fresh objects introduced. Gradually, too, since the objects vary indefinitely in kind, we abstract from their several natures and think separately of their mere extents, of which extents the various movements remain as the only constant introducers and associates. More and more, therefore, do we think of movement and seen extent as mutually involving each other, until at last (with Bain and J. S. Mill) we may get to regard them as synonymous, and say, "What is the *meaning of the word extent*, unless it be possible movement?"[93] We forget in this conclusion that (whatever intrinsic extensiveness the movements may appear endowed with), that seen spreadoutness which is the pattern of the abstract extensiveness which we imagine came to us originally from the retinal sensation.

The muscular sensations of the eyeball *signify* this sort of visible spreadoutness, just as this visible spreadoutness may come in later experience to *signify* the 'real' bulks, distances, lengths and breadths known to touch and locomotion.[94] To the very end, however, in us seeing

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penumbra or fringe, of the transition *bcd*. To *f*, to *c*, there cling quite different tones. Once admit the principle that a feeling may be tinged by the reproductive consciousness of an habitual transition, even when the transition is not made, and it seems entirely natural to admit that, if the transition be habitually in the order *abcdef*, and if *a, c,* and *f* be felt separately at all, *a* will be felt with an essential *earliness*, *f* with an essential *lateness*, and that *c* will fall between. Thus those psychologists who set little store by local signs and great store by movements in explaining space-perception, would have a perfectly definite time-order, due to motion, by which to account for the definite order of positions that appears when sensitive spots are excited all at once. Without, however, the preliminary admission of the 'ultimate fact' that this collective excitement shall feel like a *line* and nothing else, it can never be explained why the new order should needs be an order of *positions*, and not of merely ideal serial rank. We shall hereafter have any amount of opportunity to observe how thoroughgoing is the participation of motion in all our spatial measurements. Whether the local signs have their respective qualities evenly graduated or not, the feelings of transition must be set down as among the *veræ causæ* in localization. But the gradation of the local signs is hardly to be doubted; so we may believe ourselves really to possess two sets of reasons for localizing any point we may happen to distinguish from out the midst of any line or any larger space.

[93] See, e.g., Bain's Senses and Intellect, pp. 366-7, 371.

[94] When, for example, a baby looks at its own moving hand, it sees one object at the same time that it feels another. Both interest its attention, and it locates them together. But the felt object's size is the more constant size, just as the felt object is, on the whole, the

men, the quality, the nature, the *sort of thing we mean* by extensiveness, would seem to be the sort of feeling which our retinal stimulations bring.

Psychology, 606b-610b esp 608a-609a

The Choice of the Visual Reality.

We *have* native and fixed optical space-sensations; *but experience leads us to select certain ones from among them to be the exclusive bearers of reality: the rest become mere signs and suggesters of these.* The factor of *selection*, on which we have already laid so much stress, here as elsewhere is the solving word of the enigma. If Helmholtz, Wundt, and the rest, with an ambiguous retinal sensation before them, meaning now one size and distance, and now another, had not contented themselves with merely saying:—The size and distance are not this sensation, they are something beyond it which it merely calls up, and whose own birthplace is afar—in 'synthesis' (Wundt) or in 'experience' (Helmholtz) as the case may be; if they had gone on definitely to ask and definitely to answer the question, What are the size and distance in their proper selves? they would not only have escaped the present deplorable vagueness of their space-theories, but they would have seen that the objective spatial attributes 'signified' are simply and solely *certain other optical sensations now absent*, but which the present sensations suggest.

What, for example, is the slant-legged cross which we think we see on the wall when we project the rectangular after-image high up towards our right or left (Figs. 58 and 59)? Is it not in very sooth a retinal sensation itself? An imagined sensation, not a felt one, it is true, but none the less essentially and originally sensational or retinal for that,—the sensation, namely, which we should receive if a 'real' slant-legged cross stood on the wall *in front of us* and threw its image on our eye. That image is not the one our retina now holds. Our retina now holds the image which a cross of square shape throws when in front, but which a cross of the slant-legged pattern *would* throw, provided it were actually on the wall in the distant place at which we look. Call this actual retinal image the 'square' image. The square image is then one of the innumerable images the slant-legged cross can throw. Why should another one, and that an absent one, of those innumerable images be picked out to represent exclusively the slant-legged cross's 'true' shape? Why should that absent and imagined slant-legged image displace the present and felt square image from our mind? Why, when the objective cross gives us so many shapes, as it varies its position, should we think we feel the true shape only when the cross is directly in front? And when that question is answered, how can the absent and represented feeling of a

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more interesting and important object; and so the retinal sensations become regarded as its signs and have their 'real space-values' interpreted in tangible terms.

slant-legged figure so successfully intrude itself into the place of a presented square one?

Before answering either question, let us be doubly sure about our facts, and see how true it is that *in our dealings with objects we always do pick out one of the visual images they yield, to constitute the real form or size.*

The matter of size has been already touched upon, so that no more need be said of it here. As regards shape, almost all the retinal shapes that objects throw are perspective 'distortions.' Square table-tops constantly present two acute and two obtuse angles; circles drawn on our wall-papers, our carpets, or on sheets of paper, usually show like ellipses; parallels approach as they recede; human bodies are foreshortened; and the transitions from one to another of these altering forms are infinite and continual. Out of the flux, however, one phase always stands prominent. It is the form the object has when we see it easiest and best: and that is when our eyes and the object both are in what may be called *the normal position*. In this position our head is upright and our optic axes either parallel or symmetrically convergent; the plane of the object is perpendicular to the visual plane; and if the object is one containing many lines it is turned so as to make them, as far as possible, either parallel or perpendicular to the visual plane. In this situation it is that we compare all shapes with each other; here every exact measurement and decision is made.[95]

It is very easy to see why the normal situation should have this extraordinary pre-eminence. First, it is the position in which we easiest hold anything we are examining in our hands; second, it is a turning-point between all right- and all left-hand perspective views of a given object; third, it is the only position in which symmetrical figures seem symmetrical and equal angles seem equal; fourth, it is often that starting-point of movements from which the eye is least troubled by axial rotations, by which *superposition*[96] of the retinal images of different lines and different parts of the same line is easiest produced, and consequently by which the eye can make the best comparative measurements in its sweeps. All these merits single the normal position out to be chosen. No other point of view offers so many æsthetic and practical advantages. Here we believe we see the object as it *is*; elsewhere, only as it seems. Experience and custom soon teach us, however, that the seeming appearance passes into the real one by continuous gradations. They teach us, moreover, that seeming and being may be strangely interchanged. Now a real circle may slide into a seeming ellipse; now an ellipse may, by sliding in the same direction, become a

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[95] The only exception seems to be when we expressly wish to abstract from particulars, and to judge of the general 'effect.' Witness ladies trying on new dresses with their heads inclined and their eyes askance; or painters in the same attitude judging of the 'values' in their pictures.

[96] The importance of Superposition will appear later on.

seeming circle; now a rectangular cross grows slant-legged; now a slant-legged one grows rectangular.

Almost any form in oblique vision may be thus a derivative of almost any other in 'primary' vision; and we must learn, when we get one of the former appearances, to translate it into the appropriate one of the latter class; we must learn of what optical 'reality' it is one of the optical signs. Having learned this, we do but obey that law of economy or simplification which dominates our whole psychic life, when we attend exclusively to the 'reality' and ignore as much as our consciousness will let us the 'sign' by which we came to apprehend it. The signs of each probable real thing being multiple and the thing itself one and fixed, we gain the same mental relief by abandoning the former for the latter that we do when we abandon mental images, with all their fluctuating characters, for the definite and unchangeable *names* which they suggest. The selection of the several 'normal' appearances from out of the jungle of our optical experiences, to serve as the real sights of which we shall think, is psychologically a parallel phenomenon to the habit of thinking in words, and has a like use. Both are substitutions of terms few and fixed for terms manifold and vague.

Sensations which we Ignore.

This service of sensations as mere signs, to be ignored when they have evoked the other sensations which are their significates, was noticed first by Berkeley and remarked in many passages, as the following:

> Signs, being little considered in themselves, or for their own sake, but only in their relative capacity and for the sake of those things whereof they are signs, it comes to pass that the mind overlooks them, so as to carry its attention immediately on to the things signified ... which in truth and strictness are not *seen*, but only *suggested* and *apprehended* by means of the proper objects of sight which alone are seen. (Divine Visual Language, § 12.)

Berkeley of course erred in supposing that the thing suggested was not even *originally* an object of sight, as the sign now is which calls it up. Reid expressed Berkeley's principle in yet clearer language:

> The visible appearances of objects are intended by nature only as signs or indications, and the mind passes instantly to the things signified, without making the least reflection upon the sign, or even perceiving that there is any such thing.... The mind has acquired a confirmed and inveterate habit of inattention to them (the signs). For they no sooner appear than, quick as lightning, the thing signified succeeds and engrosses all our regard. They have no name in language; and although we are conscious of them when they pass through the mind, yet their passage is so quick and so familiar that it is absolutely unheeded; nor do they leave any footsteps of themselves, either in the memory or imagination. (Inquiry, chap. v. §§ 2, 3.)

If we review the facts we shall find every grade of non-attention between the extreme form of overlooking mentioned by Reid (or forms even more extreme still) and complete conscious perception of the sensation present. Sometimes it is literally impossible to become aware of the latter. Sometimes a little artifice or effort easily leads us to discern it together, or in alternation, with the 'object' it reveals. Sometimes the present sensation is held to *be* the object or to reproduce its features in undistorted shape, and *then*, of course, it receives the mind's full glare.

The deepest inattention is to subjective optical sensations, strictly so called, or those which are not signs of outer objects at all. Helmholtz's treatment of these phenomena, *muscæ volitantes*, negative after-images, double images, etc., is very satisfactory. He says:

> We only attend with any ease and exactness to our sensations in so far forth as they can be utilized for the knowledge of outward things; and we are accustomed to neglect all those portions of them which have no significance as regards the external world. So much is this the case that for the most part special artifices and practice are required for the observation of these latter more subjective feelings. Although it might seem that nothing should be easier than to be conscious of one's own sensations, experience nevertheless shows that often enough either a special talent like that showed in eminent degree by Purkinje, or accident or theoretic speculation, are necessary conditions for the discovery of subjective phenomena. Thus, for example, the blind spot on the retina was discovered by Mariotte by the theoretic way; similarly by me the existence of 'summation'-tones in acoustics. In the majority of cases accident is what first led observers whose attention was especially exercised on subjective phenomena to discover this one or that; only where the subjective appearances are so intense that they interfere with the perception of objects are they noticed by all men alike. But if they have once been discovered it is for the most part easy for subsequent observers who place themselves in proper conditions and bend their attention in the right direction to perceive them. But in many cases—for example, in the phenomena of the blind spot, in the discrimination of over-tones and combination-tones from the ground-tone of musical sounds, etc.—such a strain of the attention is required, even with appropriate instrumental aids, that most persons fail. The very after-images of bright objects are by most men perceived only under exceptionally favorable conditions, and it takes steady practice to see the fainter images of this kind. It is a commonly recurring experience that persons smitten with some eye-disease which impairs vision suddenly remark for the first time the *muscæ volitantes* which all through life their vitreous humor has contained, but which they now firmly believe to have arisen since their malady; the truth being that the latter has only made them more observant of all their visual sensations. There are also cases where one eye has gradually grown blind, and the patient lived for an indefinite time without knowing it, until, through the accidental closure of the healthy eye alone, the blindness of the other was brought to attention.

Most people, when first made aware of binocular double images, are uncommonly astonished that they should never have noticed them before, although all through their life they had been in the habit of seeing singly only those few objects which were about equally distant with the point of fixation, and the rest, those nearer and farther, which constitute the great majority, had always been double.
We must then *learn* to turn our attention to our particular sensations, and we learn this commonly only for such sensations as are means of cognition of the outer world. Only so far as they serve this end have our sensations any importance for us in ordinary life. Subjective feelings are mostly interesting only to scientific investigators; were they remarked in the ordinary use of the senses, they could only cause disturbance. Whilst, therefore, we reach an extraordinary degree of firmness and security in objective observation, we not only do not reach this where subjective phenomena are concerned, but we actually attain in a high degree the faculty of overlooking these altogether, and keeping ourselves independent of their influence in judging of objects, even in cases where their strength might lead them easily to attract our attention. (Physiol. Optik, pp. 431-2.)

Even where the sensation is not merely subjective, as in the cases of which Helmholtz speaks, but is a sign of something outward, we are also liable, as Reid says, to overlook its intrinsic quality and attend exclusively to the image of the 'thing' it suggests. But here everyone *can* easily notice the sensation itself if he will. Usually we see a sheet of paper as uniformly white, although a part of it may be in shadow. But we can in an instant, if we please, notice the shadow as local color. A man walking towards us does not usually seem to alter his size; but we can, by setting our attention in a peculiar way make him appear to do so. The whole education of the artist consists in his learning to see the presented signs as well as the represented things. No matter what the field of view *means*, he sees it also as it *feels*—that is, as a collection of patches of color bounded by lines—the whole forming an optical diagram of whose intrinsic proportions one who is not an artist has hardly a conscious inkling. The ordinary man's attention passes *over* them to their import; the artist's turns back and dwells *upon* them for their own sake. 'Don't draw the thing as it *is*, but as it *looks*!' is the endless advice of every teacher to his pupil; forgetting that what it 'is' is what it would also 'look,' provided it were placed in what we have called the 'normal' situation for vision. In this situation the sensation as 'sign' and the sensation as 'object' coalesce into one, and there is no contrast between them.

Psychology, 620b-621a

The case of the after-images distorted by projection upon an oblique plane is even more strange, for the imagined perspective figure, lying in the plane, seems less to combine with the one a moment previously seen by the eye

than to suppress it and take its place.[97] The point needing explanation, then, in all this, is how it comes to pass that, when imagined sensations are usually so inferior in vivacity to real ones, they should in these few experiences prove to be almost or quite their match.

The mystery is solved when we note the class to which all these experiences belong. They are 'perceptions' of definite 'things,' definitely situated in tridimensional space. The mind uniformly uses its sensations to *identify things by*. The sensation is invariably apperceived by the idea, name, or 'normal' aspect (p. 607) of the *thing*. The peculiarity of the *optical* signs of things is their extraordinary mutability. A 'thing' which we follow with the eye, never doubting of its physical identity, will change its retinal image incessantly. A cross, a ring, waved about in the air, will pass through every conceivable angular and elliptical form. All the while, however, as we look at them, we hold fast to the perception of their 'real' shape, by mentally combining the pictures momentarily received with the notion of peculiar positions in space. It is not the cross and ring pure and simple which we perceive, but the cross *so held*, the ring *so held*. From the day of our birth we have sought every hour of our lives to *correct* the apparent form of things, and translate it into the real form by keeping note of the way they are placed or held. In no other class of sensations does this incessant correction occur. What wonder, then, that the notion 'so placed' should invincibly exert its habitual corrective effect, even when the object with which it combines is only an after-image, and make us perceive the latter under a changed but more 'real' form? The 'real' form is also a sensation conjured up by memory; but it is one so *probable*, so *habitually* conjured up when we have just this combination of optical experiences, that it partakes of the invincible freshness of reality, and seems to break through that law which elsewhere condemns reproductive processes to being so much fainter than sensations.

Once more, *these cases form an extreme. Somewhere, in the list of our imaginations of absent feelings, there must be found the vividest of all. These optical reproductions of real form are the vividest of all.* It is foolish to reason from cases lower in the scale, to prove that the scale can contain no such extreme cases as these; and particularly foolish since we can definitely see why these imaginations ought to be more vivid than any others, whenever they recall the forms of habitual and probable things. These latter, by incessantly repeated presence and reproduction, will plough deep grooves in the nervous system. There will be developed, to correspond

[97] I ought to say that I seem always able to see the cross rectangular at will. But this appears to come from an imperfect absorption of the rectangular after-image by the inclined plane at which the eyes look. The cross, with me, is apt to detach itself from this and then look square. I get the illusion better from the circle, whose after-image becomes in various ways elliptical on being projected upon the different surfaces of the room, and cannot then be easily made to look circular again.

to them, paths of least resistance, of unstable equilibrium, liable to become active in their totality when any point is touched off. Even when the objective stimulus is imperfect, we shall still *see* the full convexity of a human face, the correct inclination of an angle or sweep of a curve, or the distance of two lines. Our mind will be like a polyhedron, whose facets are the attitudes of perception in which it can most easily rest. These are worn upon it by *habitual* objects, and from one of these it can pass only by tumbling over into another.[98]

Psychology, 664b-665b

The upshot of it may be that we are reminded of some practical duty: we write a letter to a friend abroad, or we take down the lexicon and study our Greek lesson. Our thought is rational, and leads to a rational act, but it can hardly be called reasoning in a strict sense of the term.

There are other shorter flights of thought, single couplings of terms which suggest one another by association, which approach more to what would commonly be classed as acts of reasoning proper. Those are where a present sign suggests an unseen, distant, or future reality. Where the sign and what it suggests are both concretes which have been coupled together on previous occasions, the inference is common to both brutes and men, being really nothing more than association by contiguity. A and B, dinner-bell and dinner, have been experienced in immediate succession. Hence A no sooner falls upon the sense than B is anticipated, and steps are taken to meet it. The whole education of our domestic beasts, all the cunning added by age and experience to wild ones, and the greater part of our human knowingness consists in the ability to make a mass of inferences of this simplest sort. Our 'perceptions,' or recognitions of what objects are before us, are inferences of this kind. We feel a patch of color, and we say 'a distant house,' a whiff of odor crosses us, and we say 'a skunk,' a faint sound is heard, and we call it 'a railroad train.' Examples are needless; for such inferences of sensations not presented form the staple and tissue of our perceptive life, and our Chapter XIX was full of them, illusory or veracious. They have been called *unconscious inferences*. Certainly we are commonly unconscious that we are inferring at all. The sign and the signified melt into what seems to us the object of a single pulse of thought. *Immediate inferences* would be a good name for these

[98] In Chapter XVIII, p. 501, I gave a reason why imaginations *ought* not to be as vivid as sensations. It should be borne in mind that that reason does not apply to these complemental imaginings of the real shape of things actually before our eyes.

simple acts of reasoning requiring but two terms,[99] were it not that formal logic has already appropriated the expression for a more technical use.

'RECEPTS.'

In these first and simplest inferences the conclusion may follow so continuously upon the 'sign' that the latter is not discriminated or attended to as a separate object by the mind. Even now we can seldom define the optical signs which lead us to infer the shapes and distances of the objects which by their aid we so unhesitatingly perceive. The objects, too, when thus inferred, are *general* objects. The dog crossing a scent thinks of a deer in general, or of another dog in general, not of a particular deer or dog. To these most primitive abstract objects Dr. G. J. Romanes gives the name of *recepts* or *generic* ideas, to distinguish them from concepts and general ideas properly so called.[100] They are not analyzed or defined, but only imagined.

[99] I see no need of assuming more than two terms in this sort of reasoning—first, the sign, and second, the thing inferred from it. Either may be complex, but essentially it is but A calling up B, and no middle term is involved. M. Binet, in his most intelligent little book, La Psychologie du Raisonnement, maintains that there are three terms. The present sensation or sign must, according to him, first evoke from the past an image which resembles it and fuses with it, and the things suggested or inferred are always the contiguous associates of this intermediate image, and not of the immediate sensation. The reader of Chapter XIX will see why I do not believe in the 'image' in question as a distinct psychic fact.

[100] Mental Evolution in Man (1889), chapters iii and iv. See especially pp. 68-80, and later 353, 396.