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OLD TESTAMENT: *Genesis*, 2:19-20; 11:1-9

2:19-20

[2:19] So out of the ground the LORD God formed every animal of the field and every bird of the air, and brought them to the man to see what he would call them; and whatever the man called every living creature, that was its name.

[2:20] The man gave names to all cattle, and to the birds of the air, and to every animal of the field; but for the man there was not found a helper as his partner.

11:1-9

[11:1] Now the whole earth had one language and the same words.

[11:2] And as they migrated from the east, they came upon a plain in the land of Shinar and settled there.

[11:3] And they said to one another, "Come, let us make bricks, and burn them thoroughly." And they had brick for stone, and bitumen for mortar.

[11:4] Then they said, "Come, let us build ourselves a city, and a tower with its top in the heavens, and let us make a name for ourselves; otherwise we shall be scattered abroad upon the face of the whole earth."

[11:5] The LORD came down to see the city and the tower, which mortals had built.

[11:6] And the LORD said, "Look, they are one people, and they have all one language; and this is only the beginning of what they will do; nothing that they propose to do will now be impossible for them.

[11:7] Come, let us go down, and confuse their language there, so that they will not understand one another's speech."

[11:8] So the LORD scattered them abroad from there over the face of all the earth, and they left off building the city.

[11:9] Therefore it was called Babel, because there the LORD confused the language of all the earth; and from there the LORD scattered them abroad over the face of all the earth.

6 HERODOTUS: *History*, BK II, 49a-c; BK V, 171a-b

History, BK II, 49a-c

1. On the death of Cyrus, Cambyses his son by Cassandane daughter of Pharnaspes took the kingdom. Cassandane had died in the lifetime of Cyrus, who had made a great mourning for her at her death, and had commanded all the subjects of his empire to observe the like. Cambyses, the son of this lady and of Cyrus, regarding the Ionian and Aeolian Greeks as vassals of his father, took them with him in his expedition against Egypt among the other nations which owned his sway.

2. Now the Egyptians, before the reign of their king Psammetichus, believed themselves to be the most ancient of mankind. Since Psammetichus, however, made an attempt to discover who were actually the primitive race, they have been of opinion that while they surpass all other nations, the Phrygians surpass them in antiquity. This king, finding it impossible to make out by dint of inquiry what men were the most ancient, contrived the following method of discovery: — He took two children of the common sort, and gave them over to a herdsman to bring up at his folds, strictly charging him to let no one utter a word in their presence, but to keep them in a sequestered cottage, and from time to time introduce goats to their apartment, see that they got their fill of milk, and in all other respects look after them. His object herein was to know, after the indistinct babblings of infancy were over, what word they would first articulate. It happened as he had anticipated. The herdsman obeyed his orders for two years, and at the end of that time, on his one day opening the door of their room and going in, the children both ran up to him with outstretched arms, and distinctly said "Becos." When this first happened the herdsman took no notice; but afterwards when he observed, on coming often to see after them, that the word was constantly in their mouths, he informed his lord, and by his command brought the children into his presence. Psammetichus then himself heard them say the word, upon which he proceeded to make inquiry what people there was who called anything "becos," and hereupon he learnt that "becos" was the Phrygian name for bread. In consideration of this circumstance the Egyptians yielded their claims, and admitted the greater antiquity of the Phrygians.

3. That these were the real facts I learnt at Memphis from the priests of Vulcan. The Greeks, among other foolish tales, relate that Psammetichus had the children brought up by women whose tongues he had previously cut out; but the priests said their bringing up was such as I have stated above. I got much other information also from conversation with these priests while I was at Memphis, and I even went to Heliopolis and to Thebes, expressly to try whether the priests of those places would agree in their accounts with the priests at Memphis. The Heliopolitans have the reputation of being the best skilled in history of all the Egyptians. What they told me concerning their religion it is not my intention to repeat, except the names of their deities, which I believe all men know equally. If I relate anything else concerning these matters, it will only be when compelled to do so by the course of my narrative.

History, BK V, 171a-b

58. Now the Phoenicians who came with Cadmus, and to whom the Gephyraei belonged, introduced into Greece upon their arrival a great variety of arts, among the rest that of writing, whereof the Greeks till then

had, as I think, been ignorant. And originally they shaped their letters exactly like all the other Phoenicians, but afterwards, in course of time, they changed by degrees their language, and together with it the form likewise of their characters. Now the Greeks who dwelt about those parts at that time were chiefly the Ionians. The Phoenician letters were accordingly adopted by them, but with some variation in the shape of a few, and so they arrived at the present use, still calling the letters Phoenician, as justice required, after the name of those who were the first to introduce them into Greece. Paper rolls also were called from of old "parchments" by the Ionians, because formerly when paper was scarce they used, instead, the skins of sheep and goats — on which material many of the barbarians are even now wont to write.

59. I myself saw Cadmeian characters engraved upon some tripods in the temple of Apollo Ismenias in Boeotian Thebes, most of them shaped like the Ionian. One of the tripods has the inscription following: —

Me did Amphitryon place, from the far Teleboans coming.

This would be about the age of Laius, the son of Labdacus, the son of Polydorus, the son of Cadmus.

60. Another of the tripods has this legend in the hexameter measure: —

*I to far-shooting Phoebus was offered by Scaeus the boxer,
When he had won at the games — a wondrous beautiful offering.*

This might be Scaeus, the son of Hippocoon; and the tripod, if dedicated by him, and not by another of the same name, would belong to the time of Oedipus, the son of Laius.

7 PLATO: *Cratylus*, 107c-114a,c / *Phaedrus*, 138c-139b / *Philebus*, 612d-613a

Cratylus, 107c-114a,c

SOCRATES: I am by no means positive, Cratylus, in the view which Hermogenes and myself have worked out; and therefore do not hesitate to say what you think, which if it be better than my own view I shall gladly accept. And I should not be at all surprized to find that you have found some better notion. For you have evidently reflected on these matters and have had teachers, and if you have really a better theory of the truth of names, you may count me in the number of your disciples.

CRATYLUS: You are right, Socrates, in saying that I have made a study of these matters, and I might possibly convert you into a disciple. But I fear that the opposite is more probable, and I already find myself moved to say to you what Achilles in the 'Prayers' says to Ajax, —

'Illustrious Ajax, son of Telamon, lord of the people,

You appear to have spoken in all things much to my mind.'

And you, Socrates, appear to me to be an oracle, and to give answers much to my mind, whether you are inspired by Euthyphro, or whether some Muse may have long been an inhabitant of your breast, unconsciously to yourself.

SOCRATES: Excellent Cratylus, I have long been wondering at my own wisdom; I cannot trust myself. And I think that I ought to stop and ask myself What am I saying? for there is nothing worse than self-deception — when the deceiver is always at home and always with you — it is quite terrible, and therefore I ought often to retrace my steps and endeavour to 'look fore and aft,' in the words of the aforesaid Homer. And now let me see; where are we? Have we not been saying that the correct name indicates the nature of the thing: — has this proposition been sufficiently proven?

CRATYLUS: Yes, Socrates, what you say, as I am disposed to think, is quite true.

SOCRATES: Names, then, are given in order to instruct?

CRATYLUS: Certainly.

SOCRATES: And naming is an art, and has artificers?

CRATYLUS: Yes.

SOCRATES: And who are they?

CRATYLUS: The legislators, of whom you spoke at first.

SOCRATES: And does this art grow up among men like other arts? Let me explain what I mean: of painters, some are better and some worse?

CRATYLUS: Yes.

SOCRATES: The better painters execute their works, I mean their figures, better, and the worse execute them worse; and of builders also, the better sort build fairer houses, and the worse build them worse.

CRATYLUS: True.

SOCRATES: And among legislators, there are some who do their work better and some worse?

CRATYLUS: No; there I do not agree with you.

SOCRATES: Then you do not think that some laws are better and others worse?

CRATYLUS: No, indeed.

SOCRATES: Or that one name is better than another?

CRATYLUS: Certainly not.

SOCRATES: Then all names are rightly imposed?

CRATYLUS: Yes, if they are names at all.

SOCRATES: Well, what do you say to the name of our friend Hermogenes, which was mentioned before: — assuming that he has nothing of the nature of Hermes in him, shall we say that this is a wrong name, or not his name at all?

CRATYLUS: I should reply that Hermogenes is not his name at all, but only appears to be his, and is really the name of somebody else, who has the nature which corresponds to it.

SOCRATES: And if a man were to call him Hermogenes, would he not be even speaking falsely? For there may be a doubt whether you can call him Hermogenes, if he is not.

CRATYLUS: What do you mean?

SOCRATES: Are you maintaining that falsehood is impossible? For if this is your meaning I should answer, that there have been plenty of liars in all ages.

CRATYLUS: Why, Socrates, how can a man say that which is not? — say something and yet say nothing? For is not falsehood saying the thing which is not?

SOCRATES: Your argument, friend, is too subtle for a man of my age. But I should like to know whether you are one of those philosophers who think that falsehood may be spoken but not said?

CRATYLUS: Neither spoken nor said.

SOCRATES: Nor uttered nor addressed? For example: If a person, saluting you in a foreign country, were to take your hand and say: 'Hail, Athenian stranger, Hermogenes, son of Smicrion' — these words, whether spoken, said, uttered, or addressed, would have no application to you but only to our friend Hermogenes, or perhaps to nobody at all?

CRATYLUS: In my opinion, Socrates, the speaker would only be talking nonsense.

SOCRATES: Well, but that will be quite enough for me, if you will tell me whether the nonsense would be true or false, or partly true and partly false: — which is all that I want to know.

CRATYLUS: I should say that he would be putting himself in motion to no purpose; and that his words would be an unmeaning sound like the noise of hammering at a brazen pot.

SOCRATES: But let us see, Cratylus, whether we cannot find a meeting-point, for you would admit that the name is not the same with the thing named?

CRATYLUS: I should.

SOCRATES: And would you further acknowledge that the name is an imitation of the thing?

CRATYLUS: Certainly.

SOCRATES: And you would say that pictures are also imitations of things, but in another way?

CRATYLUS: Yes.

SOCRATES: I believe you may be right, but I do not rightly understand you. Please to say, then, whether both sorts of imitation (I mean both pictures or

words) are not equally attributable and applicable to the things of which they are the imitation.

CRATYLUS: They are.

SOCRATES: First look at the matter thus: you may attribute the likeness of the man to the man, and of the woman to the woman; and so on?

CRATYLUS: Certainly.

SOCRATES: And conversely you may attribute the likeness of the man to the woman, and of the woman to the man?

CRATYLUS: Very true.

SOCRATES: And are both modes of assigning them right, or only the first?

CRATYLUS: Only the first.

SOCRATES: That is to say, the mode of assignment which attributes to each that which belongs to them and is like them?

CRATYLUS: That is my view.

SOCRATES: Now then, as I am desirous that we being friends should have a good understanding about the argument, let me state my view to you: the first mode of assignment, whether applied to figures or to names, I call right, and when applied to names only, true as well as right; and the other mode of giving and assigning the name which is unlike, I call wrong, and in the case of names, false as well as wrong.

CRATYLUS: That may be true, Socrates, in the case of pictures; they may be wrongly assigned; but not in the case of names — they must be always right.

SOCRATES: Why, what is the difference? May I not go to a man and say to him, 'This is your picture,' showing him his own likeness, or perhaps the likeness of a woman; and when I say 'show,' I mean bring before the sense of sight.

CRATYLUS: Certainly.

SOCRATES: And may I not go to him again, and say, 'This is your name'? — for the name, like the picture, is an imitation. May I not say to him — 'This is your name'? and may I not then bring to his sense of hearing the imitation of himself, when I say, 'This is a man'; or of a female of the human species, when I say, 'This is a woman,' as the case may be? Is not all that quite possible?

CRATYLUS: I would fain agree with you, Socrates; and therefore I say, Granted.

SOCRATES: That is very good of you, if I am right, which need hardly be disputed at present. But if I can assign names as well as pictures to objects, the right assignment of them we may call truth, and the wrong assignment of them falsehood. Now if there be such a wrong assignment of names, there may also be a wrong or inappropriate assignment of verbs; and if of names and verbs then of the sentences, which are made up of them. What do you say, Cratylus?

CRATYLUS: I agree; and think that what you say is very true.

SOCRATES: And further, primitive nouns may be compared to pictures, and in pictures you may either give all the appropriate colours and figures, or you may not give them all — some may be wanting; or there may be too many or too much of them — may there not?

CRATYLUS: Very true.

SOCRATES: And he who gives all gives a perfect picture or figure; and he who takes away or adds also gives a picture or figure, but not a good one.

CRATYLUS: Yes.

SOCRATES: In like manner, he who by syllables and letters imitates the nature of things, if he gives all that is appropriate will produce a good image, or in other words a name; but if he subtracts or perhaps adds a little, he will make an image but not a good one; whence I infer that some names are well and others ill made.

CRATYLUS: That is true.

SOCRATES: Then the artist of names may be sometimes good, or he may be bad?

CRATYLUS: Yes.

SOCRATES: And this artist of names is called the legislator?

CRATYLUS: Yes.

SOCRATES: Then like other artists the legislator may be good or he may be bad; it must surely be so if our former admissions hold good?

CRATYLUS: Very true, Socrates; but the case of language, you see, is different; for when by the help of grammar we assign the letters alpha or beta, or any other letters to a certain name, then, if we add, or subtract, or misplace a letter, the name which is written is not only written wrongly, but not written at all; and in any of these cases becomes other than a name.

SOCRATES: But I doubt whether your view is altogether correct, Cratylus.

CRATYLUS: How so?

SOCRATES: I believe that what you say may be true about numbers, which must be just what they are, or not be at all; for example, the number ten at once becomes other than ten if a unit be added or subtracted, and so of any other number: but this does not apply to that which is qualitative or to anything which is represented under an image. I should say rather that the image, if expressing in every point the entire reality, would no longer be an image. Let us suppose the existence of two objects: one of them shall be Cratylus, and the other the image of Cratylus; and we will suppose, further, that some God makes not only a representation such as a painter would make of your outward form and colour, but also creates an inward organization like yours, having the same warmth and softness; and into this infuses motion, and soul, and mind, such as you have, and in a word copies all your qualities, and places them by you in another form; would you say

that this was Cratylus and the image of Cratylus, or that there were two Cratyluses?

CRATYLUS: I should say that there were two Cratyluses.

SOCRATES: Then you see, my friend, that we must find some other principle of truth in images, and also in names; and not insist that an image is no longer an image when something is added or subtracted. Do you not perceive that images are very far from having qualities which are the exact counterpart of the realities which they represent?

CRATYLUS: Yes, I see.

SOCRATES: But then how ridiculous would be the effect of names on things, if they were exactly the same with them! For they would be the doubles of them, and no one would be able to determine which were the names and which were the realities.

CRATYLUS: Quite true.

SOCRATES: Then fear not, but have the courage to admit that one name may be correctly and another incorrectly given; and do not insist that the name shall be exactly the same with the thing; but allow the occasional substitution of a wrong letter, and if of a letter also of a noun in a sentence, and if of a noun in a sentence also of a sentence which is not appropriate to the matter, and acknowledge that the thing may be named, and described, so long as the general character of the thing which you are describing is retained; and this, as you will remember, was remarked by Hermogenes and myself in the particular instance of the names of the letters.

CRATYLUS: Yes, I remember.

SOCRATES: Good; and when the general character is preserved, even if some of the proper letters are wanting, still the thing is signified; — well, if all the letters are given; not well, when only a few of them are given. I think that we had better admit this, lest we be punished like travellers in Aegina who wander about the street late at night: and be likewise told by truth herself that we have arrived too late; or if not, you must find out some new notion of correctness of names, and no longer maintain that a name is the expression of a thing in letters or syllables; for if you say both, you will be inconsistent with yourself.

CRATYLUS: I quite acknowledge, Socrates, what you say to be very reasonable.

SOCRATES: Then as we are agreed thus far, let us ask ourselves whether a name rightly imposed ought not to have the proper letters.

CRATYLUS: Yes.

SOCRATES: And the proper letters are those which are like the things?

CRATYLUS: Yes.

SOCRATES: Enough then of names which are rightly given. And in names which are incorrectly given, the greater part may be supposed to be made

up of proper and similar letters, or there would be no likeness; but there will be likewise a part which is improper and spoils the beauty and formation of the word: you would admit that?

CRATYLUS: There would be no use, Socrates, in my quarrelling with you, since I cannot be satisfied that a name which is incorrectly given is a name at all.

SOCRATES: Do you admit a name to be the representation of a thing?

CRATYLUS: Yes, I do.

SOCRATES: But do you not allow that some nouns are primitive, and some derived?

CRATYLUS: Yes, I do.

SOCRATES: Then if you admit that primitive or first nouns are representations of things, is there any better way of framing representations than by assimilating them to the objects as much as you can; or do you prefer the notion of Hermogenes and of many others, who say that names are conventional, and have a meaning to those who have agreed about them, and who have previous knowledge of the things intended by them, and that convention is the only principle; and whether you abide by our present convention, or make a new and opposite one, according to which you call small great and great small — that, they would say, makes no difference, if you are only agreed. Which of these two notions do you prefer?

CRATYLUS: Representation by likeness, Socrates, is infinitely better than representation by any chance sign.

SOCRATES: Very good: but if the name is to be like the thing, the letters out of which the first names are composed must also be like things. Returning to the image of the picture, I would ask, How could any one ever compose a picture which would be like anything at all, if there were not pigments in nature which resembled the things imitated, and out of which the picture is composed?

CRATYLUS: Impossible.

SOCRATES: No more could names ever resemble any actually existing thing, unless the original elements of which they are compounded bore some degree of resemblance to the objects of which the names are the imitation: And the original elements are letters?

CRATYLUS: Yes.

SOCRATES: Let me now invite you to consider what Hermogenes and I were saying about sounds. Do you agree with me that the letter rho is expressive of rapidity, motion, and hardness? Were we right or wrong in saying so?

CRATYLUS: I should say that you were right.

SOCRATES: And that lamda was expressive of smoothness, and softness, and the like?

CRATYLUS: There again you were right.

SOCRATES: And yet, as you are aware, that which is called by us sklerotes, is by the Eretrians called skleroter.

CRATYLUS: Very true.

SOCRATES: But are the letters rho and sigma equivalents; and is there the same significance to them in the termination rho, which there is to us in sigma, or is there no significance to one of us?

CRATYLUS: Nay, surely there is a significance to both of us.

SOCRATES: In as far as they are like, or in as far as they are unlike?

CRATYLUS: In as far as they are like.

SOCRATES: Are they altogether alike?

CRATYLUS: Yes; for the purpose of expressing motion.

SOCRATES: And what do you say of the insertion of the lamda? for that is expressive not of hardness but of softness.

CRATYLUS: Why, perhaps the letter lamda is wrongly inserted, Socrates, and should be altered into rho, as you were saying to Hermogenes and in my opinion rightly, when you spoke of adding and subtracting letters upon occasion.

SOCRATES: Good. But still the word is intelligible to both of us; when I say skleros (hard), you know what I mean.

CRATYLUS: Yes, my dear friend, and the explanation of that is custom.

SOCRATES: And what is custom but convention? I utter a sound which I understand, and you know that I understand the meaning of the sound: this is what you are saying?

CRATYLUS: Yes.

SOCRATES: And if when I speak you know my meaning, there is an indication given by me to you?

CRATYLUS: Yes.

SOCRATES: This indication of my meaning may proceed from unlike as well as from like, for example in the lamda of sklerotes. But if this is true, then you have made a convention with yourself, and the correctness of a name turns out to be convention, since letters which are unlike are indicative equally with those which are like, if they are sanctioned by custom and convention. And even supposing that you distinguish custom from convention ever so much, still you must say that the signification of words is given by custom and not by likeness, for custom may indicate by the unlike as well as by the like. But as we are agreed thus far, Cratylus (for I shall assume that your silence gives consent), then custom and convention must be supposed to contribute to the indication of our thoughts; for suppose we take the instance of number, how can you ever imagine, my good friend, that you will find names resembling every individual number,

unless you allow that which you term convention and agreement to have authority in determining the correctness of names? I quite agree with you that words should as far as possible resemble things; but I fear that this dragging in of resemblance, as Hermogenes says, is a shabby thing, which has to be supplemented by the mechanical aid of convention with a view to correctness; for I believe that if we could always, or almost always, use likenesses, which are perfectly appropriate, this would be the most perfect state of language; as the opposite is the most imperfect. But let me ask you, what is the force of names, and what is the use of them?

CRATYLUS: The use of names, Socrates, as I should imagine, is to inform: the simple truth is, that he who knows names knows also the things which are expressed by them.

SOCRATES: I suppose you mean to say, Cratylus, that as the name is, so also is the thing; and that he who knows the one will also know the other, because they are similars, and all similars fall under the same art or science; and therefore you would say that he who knows names will also know things.

CRATYLUS: That is precisely what I mean.

SOCRATES: But let us consider what is the nature of this information about things which, according to you, is given us by names. Is it the best sort of information? or is there any other? What do you say?

CRATYLUS: I believe that to be both the only and the best sort of information about them; there can be no other.

SOCRATES: But do you believe that in the discovery of them, he who discovers the names discovers also the things; or is this only the method of instruction, and is there some other method of enquiry and discovery.

CRATYLUS: I certainly believe that the methods of enquiry and discovery are of the same nature as instruction.

SOCRATES: Well, but do you not see, Cratylus, that he who follows names in the search after things, and analyses their meaning, is in great danger of being deceived?

CRATYLUS: How so?

SOCRATES: Why clearly he who first gave names gave them according to his conception of the things which they signified — did he not?

CRATYLUS: True.

SOCRATES: And if his conception was erroneous, and he gave names according to his conception, in what position shall we who are his followers find ourselves? Shall we not be deceived by him?

CRATYLUS: But, Socrates, am I not right in thinking that he must surely have known; or else, as I was saying, his names would not be names at all? And you have a clear proof that he has not missed the truth, and the proof is — that he is perfectly consistent. Did you ever observe in speaking that all the words which you utter have a common character and purpose?

SOCRATES: But that, friend Cratylus, is no answer. For if he did begin in error, he may have forced the remainder into agreement with the original error and with himself; there would be nothing strange in this, any more than in geometrical diagrams, which have often a slight and invisible flaw in the first part of the process, and are consistently mistaken in the long deductions which follow. And this is the reason why every man should expend his chief thought and attention on the consideration of his first principles: — are they or are they not rightly laid down? and when he has duly sifted them, all the rest will follow. Now I should be astonished to find that names are really consistent. And here let us revert to our former discussion: Were we not saying that all things are in motion and progress and flux, and that this idea of motion is expressed by names? Do you not conceive that to be the meaning of them?

CRATYLUS: Yes; that is assuredly their meaning, and the true meaning.

SOCRATES: Let us revert to episteme (knowledge) and observe how ambiguous this word is, seeming rather to signify stopping the soul at things than going round with them; and therefore we should leave the beginning as at present, and not reject the epsilon, but make an insertion of an iota instead of an epsilon (not pisteme, but epiisteme). Take another example: bebaion (sure) is clearly the expression of station and position, and not of motion. Again, the word istoria (enquiry) bears upon the face of it the stopping (istanai) of the stream; and the word piston (faithful) certainly indicates cessation of motion; then, again, mneme (memory), as any one may see, expresses rest in the soul, and not motion. Moreover, words such as amartia and sumphora, which have a bad sense, viewed in the light of their etymologies will be the same as sunesis and episteme and other words which have a good sense (compare omartein, sunienai, epesthai, sumpheresthai); and much the same may be said of amathia and akolasia, for amathia may be explained as e ama theoi iontos poreia, and akolasia as e akolouthia tois pragmasin. Thus the names which in these instances we find to have the worst sense, will turn out to be framed on the same principle as those which have the best. And any one I believe who would take the trouble might find many other examples in which the giver of names indicates, not that things are in motion or progress, but that they are at rest; which is the opposite of motion.

CRATYLUS: Yes, Socrates, but observe; the greater number express motion.

SOCRATES: What of that, Cratylus? Are we to count them like votes? and is correctness of names the voice of the majority? Are we to say of whichever sort there are most, those are the true ones?

CRATYLUS: No; that is not reasonable.

SOCRATES: Certainly not. But let us have done with this question and proceed to another, about which I should like to know whether you think with me. Were we not lately acknowledging that the first givers of names in

states, both Hellenic and barbarous, were the legislators, and that the art which gave names was the art of the legislator?

CRATYLUS: Quite true.

SOCRATES: Tell me, then, did the first legislators, who were the givers of the first names, know or not know the things which they named?

CRATYLUS: They must have known, Socrates.

SOCRATES: Why, yes, friend Cratylus, they could hardly have been ignorant.

CRATYLUS: I should say not.

SOCRATES: Let us return to the point from which we digressed. You were saying, if you remember, that he who gave names must have known the things which he named; are you still of that opinion?

CRATYLUS: I am.

SOCRATES: And would you say that the giver of the first names had also a knowledge of the things which he named?

CRATYLUS: I should.

SOCRATES: But how could he have learned or discovered things from names if the primitive names were not yet given? For, if we are correct in our view, the only way of learning and discovering things, is either to discover names for ourselves or to learn them from others.

CRATYLUS: I think that there is a good deal in what you say, Socrates.

SOCRATES: But if things are only to be known through names, how can we suppose that the givers of names had knowledge, or were legislators before there were names at all, and therefore before they could have known them?

CRATYLUS: I believe, Socrates, the true account of the matter to be, that a power more than human gave things their first names, and that the names which are thus given are necessarily their true names.

SOCRATES: Then how came the giver of the names, if he was an inspired being or God, to contradict himself? For were we not saying just now that he made some names expressive of rest and others of motion? Were we mistaken?

CRATYLUS: But I suppose one of the two not to be names at all.

SOCRATES: And which, then, did he make, my good friend; those which are expressive of rest, or those which are expressive of motion? This is a point which, as I said before, cannot be determined by counting them.

CRATYLUS: No; not in that way, Socrates.

SOCRATES: But if this is a battle of names, some of them asserting that they are like the truth, others contending that THEY are, how or by what criterion are we to decide between them? For there are no other names to which appeal can be made, but obviously recourse must be had to another standard which, without employing names, will make clear which of the two are right; and this must be a standard which shows the truth of things.

CRATYLUS: I agree.

SOCRATES: But if that is true, Cratylus, then I suppose that things may be known without names?

CRATYLUS: Clearly.

SOCRATES: But how would you expect to know them? What other way can there be of knowing them, except the true and natural way, through their affinities, when they are akin to each other, and through themselves? For that which is other and different from them must signify something other and different from them.

CRATYLUS: What you are saying is, I think, true.

SOCRATES: Well, but reflect; have we not several times acknowledged that names rightly given are the likenesses and images of the things which they name?

CRATYLUS: Yes.

SOCRATES: Let us suppose that to any extent you please you can learn things through the medium of names, and suppose also that you can learn them from the things themselves — which is likely to be the nobler and clearer way; to learn of the image, whether the image and the truth of which the image is the expression have been rightly conceived, or to learn of the truth whether the truth and the image of it have been duly executed?

CRATYLUS: I should say that we must learn of the truth.

SOCRATES: How real existence is to be studied or discovered is, I suspect, beyond you and me. But we may admit so much, that the knowledge of things is not to be derived from names. No; they must be studied and investigated in themselves.

CRATYLUS: Clearly, Socrates.

SOCRATES: There is another point. I should not like us to be imposed upon by the appearance of such a multitude of names, all tending in the same direction. I myself do not deny that the givers of names did really give them under the idea that all things were in motion and flux; which was their sincere but, I think, mistaken opinion. And having fallen into a kind of whirlpool themselves, they are carried round, and want to drag us in after them. There is a matter, master Cratylus, about which I often dream, and should like to ask your opinion: Tell me, whether there is or is not any absolute beauty or good, or any other absolute existence?

CRATYLUS: Certainly, Socrates, I think so.

SOCRATES: Then let us seek the true beauty: not asking whether a face is fair, or anything of that sort, for all such things appear to be in a flux; but let us ask whether the true beauty is not always beautiful.

CRATYLUS: Certainly.

SOCRATES: And can we rightly speak of a beauty which is always passing away, and is first this and then that; must not the same thing be born and retire and vanish while the word is in our mouths?

CRATYLUS: Undoubtedly.

SOCRATES: Then how can that be a real thing which is never in the same state? for obviously things which are the same cannot change while they remain the same; and if they are always the same and in the same state, and never depart from their original form, they can never change or be moved.

CRATYLUS: Certainly they cannot.

SOCRATES: Nor yet can they be known by any one; for at the moment that the observer approaches, then they become other and of another nature, so that you cannot get any further in knowing their nature or state, for you cannot know that which has no state.

CRATYLUS: True.

SOCRATES: Nor can we reasonably say, Cratylus, that there is knowledge at all, if everything is in a state of transition and there is nothing abiding; for knowledge too cannot continue to be knowledge unless continuing always to abide and exist. But if the very nature of knowledge changes, at the time when the change occurs there will be no knowledge; and if the transition is always going on, there will always be no knowledge, and, according to this view, there will be no one to know and nothing to be known: but if that which knows and that which is known exists ever, and the beautiful and the good and every other thing also exist, then I do not think that they can resemble a process or flux, as we were just now supposing. Whether there is this eternal nature in things, or whether the truth is what Heracleitus and his followers and many others say, is a question hard to determine; and no man of sense will like to put himself or the education of his mind in the power of names: neither will he so far trust names or the givers of names as to be confident in any knowledge which condemns himself and other existences to an unhealthy state of unreality; he will not believe that all things leak like a pot, or imagine that the world is a man who has a running at the nose. This may be true, Cratylus, but is also very likely to be untrue; and therefore I would not have you be too easily persuaded of it. Reflect well and like a man, and do not easily accept such a doctrine; for you are young and of an age to learn. And when you have found the truth, come and tell me.

CRATYLUS: I will do as you say, though I can assure you, Socrates, that I have been considering the matter already, and the result of a great deal of trouble and consideration is that I incline to Heracleitus.

SOCRATES: Then, another day, my friend, when you come back, you shall give me a lesson; but at present, go into the country, as you are intending, and Hermogenes shall set you on your way.

CRATYLUS: Very good, Socrates; I hope, however, that you will continue to think about these things yourself.

Phaedrus, 138c-139b

PHAEDRUS: I think, Socrates, that this is admirable, if only practicable.

SOCRATES: But even to fail in an honourable object is honourable.

PHAEDRUS: True.

SOCRATES: Enough appears to have been said by us of a true and false art of speaking.

PHAEDRUS: Certainly.

SOCRATES: But there is something yet to be said of propriety and impropriety of writing.

PHAEDRUS: Yes.

SOCRATES: Do you know how you can speak or act about rhetoric in a manner which will be acceptable to God?

PHAEDRUS: No, indeed. Do you?

SOCRATES: I have heard a tradition of the ancients, whether true or not they only know; although if we had found the truth ourselves, do you think that we should care much about the opinions of men?

PHAEDRUS: Your question needs no answer; but I wish that you would tell me what you say that you have heard.

SOCRATES: At the Egyptian city of Naucratis, there was a famous old god, whose name was Theuth; the bird which is called the Ibis is sacred to him, and he was the inventor of many arts, such as arithmetic and calculation and geometry and astronomy and draughts and dice, but his great discovery was the use of letters. Now in those days the god Thamus was the king of the whole country of Egypt; and he dwelt in that great city of Upper Egypt which the Hellenes call Egyptian Thebes, and the god himself is called by them Ammon. To him came Theuth and showed his inventions, desiring that the other Egyptians might be allowed to have the benefit of them; he enumerated them, and Thamus enquired about their several uses, and praised some of them and censured others, as he approved or disapproved of them. It would take a long time to repeat all that Thamus said to Theuth in praise or blame of the various arts. But when they came to letters, This, said Theuth, will make the Egyptians wiser and give them better memories; it is a specific both for the memory and for the wit. Thamus replied: O most ingenious Theuth, the parent or inventor of an art is not always the best judge of the utility or inutility of his own inventions to the users of them. And in this instance, you who are the father of letters, from a paternal love of your own children have been led to attribute to them a quality which they cannot have; for this discovery of yours will create forgetfulness in the learners' souls, because they will not use their memories; they will trust to the external written characters and not remember of themselves. The specific which you have discovered is an aid not to memory, but to reminiscence, and you give your disciples not truth, but only the semblance of truth; they will be hearers of many things and will have learned nothing;

they will appear to be omniscient and will generally know nothing; they will be tiresome company, having the show of wisdom without the reality.

PHAEDRUS: Yes, Socrates, you can easily invent tales of Egypt, or of any other country.

SOCRATES: There was a tradition in the temple of Dodona that oaks first gave prophetic utterances. The men of old, unlike in their simplicity to young philosophy, deemed that if they heard the truth even from 'oak or rock,' it was enough for them; whereas you seem to consider not whether a thing is or is not true, but who the speaker is and from what country the tale comes.

PHAEDRUS: I acknowledge the justice of your rebuke; and I think that the Theban is right in his view about letters.

SOCRATES: He would be a very simple person, and quite a stranger to the oracles of Thamus or Ammon, who should leave in writing or receive in writing any art under the idea that the written word would be intelligible or certain; or who deemed that writing was at all better than knowledge and recollection of the same matters?

PHAEDRUS: That is most true.

SOCRATES: I cannot help feeling, Phaedrus, that writing is unfortunately like painting; for the creations of the painter have the attitude of life, and yet if you ask them a question they preserve a solemn silence. And the same may be said of speeches. You would imagine that they had intelligence, but if you want to know anything and put a question to one of them, the speaker always gives one unvarying answer. And when they have been once written down they are tumbled about anywhere among those who may or may not understand them, and know not to whom they should reply, to whom not; and, if they are maltreated or abused, they have no parent to protect them; and they cannot protect or defend themselves.

PHAEDRUS: That again is most true.

SOCRATES: Is there not another kind of word or speech far better than this, and having far greater power — a son of the same family, but lawfully begotten?

Philebus, 612d-613a

PROTARCHUS: I think that what Socrates is now saying is excellent, Philebus.

PHILEBUS: I think so too, but how do his words bear upon us and upon the argument?

SOCRATES: Philebus is right in asking that question of us, Protarchus.

PROTARCHUS: Indeed he is, and you must answer him.

SOCRATES: I will; but you must let me make one little remark first about these matters; I was saying, that he who begins with any individual unity, should proceed from that, not to infinity, but to a definite number, and now

I say conversely, that he who has to begin with infinity should not jump to unity, but he should look about for some number representing a certain quantity, and thus out of all end in one. And now let us return for an illustration of our principle to the case of letters.

PROTARCHUS: What do you mean?

SOCRATES: Some god or divine man, who in the Egyptian legend is said to have been Theuth, observing that the human voice was infinite, first distinguished in this infinity a certain number of vowels, and then other letters which had sound, but were not pure vowels (i.e., the semivowels); these too exist in a definite number; and lastly, he distinguished a third class of letters which we now call mutes, without voice and without sound, and divided these, and likewise the two other classes of vowels and semivowels, into the individual sounds, and told the number of them, and gave to each and all of them the name of letters; and observing that none of us could learn any one of them and not learn them all, and in consideration of this common bond which in a manner united them, he assigned to them all a single art, and this he called the art of grammar or letters.

PHILEBUS: The illustration, Protarchus, has assisted me in understanding the original statement, but I still feel the defect of which I just now complained.

SOCRATES: Are you going to ask, Philebus, what this has to do with the argument?

PHILEBUS: Yes, that is a question which Protarchus and I have been long asking.

SOCRATES: Assuredly you have already arrived at the answer to the question which, as you say, you have been so long asking?

8 ARISTOTLE: *Interpretation*, CH I [16^a4-8] 25a /*Soul*, BK II, CH 8 [420^b16-22] 652a

Interpretation, CH I [16^a4-8] 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 II, CH 8 [420^b16-22] 652a

... hence it is only to be expected that no animals utter voice except those which take in air. Once air is inbreathed, Nature uses it for two different purposes, as the tongue is used both for tasting and for articulating; in that case of the two functions tasting is necessary for the animal's existence (hence it is found more widely distributed), while articulate speech is a luxury subserving its possessor's well-being; similarly in the former case Nature employs the breath both as an indispensable means to the regulation of the inner temperature of the living body and also as the matter of articulate voice, in the interests of its possessor's well-being. Why its former use is indispensable must be discussed elsewhere.¹

12 LUCRETIUS: *Nature of Things*, BK V [1028-1090] 74c-75b

But nature impelled them to utter the various sounds of the tongue and use struck out the names of things, much in the same way as the inability to speak is seen in its turn to drive children to the use of gestures, when it forces them to point with the finger at the things which are before them. For everyone feels how far he can make use of his peculiar powers. Ere the horns of a calf are formed and project from his forehead, he butts with it when angry and pushes out in his rage. Then whelps of panthers and cubs of lions fight with claws and feet and teeth at a time when teeth and claws are hardly yet formed. Again we see every kind of fowl trust to wings and seek from pinions a fluttering succour. Therefore to suppose that some one man at that time apportioned names to things and that men from him learnt their first words, is sheer folly. For why should this particular man be able to denote all things by words and to utter the various sounds of the tongue, and yet at the same time others be supposed not to have been able to do so? Again if others as well as he had not made use of words among themselves, whence was implanted in this man the previous conception of its use and whence was given to him the original faculty, to know and perceive in mind what he wanted to do? Again one man could not constrain and subdue and force many to choose to learn the names of things. It is no easy thing in any way to teach and convince the deaf of what is needful to be done; for they never would suffer nor in any way endure sounds of voice hitherto unheard to continue to be dinned fruitlessly into their ears. Lastly what is there so passing strange in this circumstance, that the race of men whose voice and tongue were in full force, should denote things by different words as different feelings prompted? Since dumb brutes, yes and the races of wild beasts are accustomed to give forth distinct and varied sounds, when they have fear or pain and when joys are rife.

¹ *On Breathing*, 478^a 28; *On the Parts of Animals*, 642^a 31-^b4.

This you may learn from facts plain to sense: when the large spongy open lips of Molossian dogs begin to growl enraged and bare their hard teeth, thus drawn back in rage they threaten in a tone far different from that in which they bark outright and fill with sounds all the places round. Again when they essay fondly to lick their whelps with their tongue or when they toss them with their feet and snapping at them make a feint with lightly closing teeth of swallowing though with gentle forbearance, they caress them with a yelping sound of a sort greatly differing from that which they utter when left alone in a house they bay or when they slink away howling from blows with a crouching body. Again is not the neigh too seen to differ, when a young stallion in the flower of age rages among the mares smitten by the goads of winged love, and when with wide-stretched nostrils he snorts out the signal to arms, and when as it chances on any occasion he neighs with limbs all shaking? Lastly, the race of fowls and various birds, hawks and osprays and gulls seeking their living in the salt water mid the waves of the sea, utter at a different time noises widely different from those they make when they are fighting for food and struggling with their prey. And some of them change together with the weather their harsh croakings, as the long-lived races of crows and flocks of rooks when they are said to be calling for water and rain and sometimes to be summoning winds and gales. Therefore if different sensations compel creatures, dumb though they be, to utter different sounds, how much more natural it is that mortal men in those times should have been able to denote dissimilar things by many different words!

15 TACITUS: *Annals*, BK XI, 103c-d

As for her, careless of concealment, she went continually with a numerous retinue to his house, she haunted his steps, showered on him wealth and honours, and, at last, as though empire had passed to another, the slaves, the freedmen, the very furniture of the emperor were to be seen in the possession of the paramour.

13. Claudius meanwhile, who knew nothing about his wife, [Note 1] , and was busy with his functions as censor, published edicts severely rebuking the lawlessness of the people in the theatre, when they insulted Gaius Pomponius, an ex-consul, who furnished verses for the stage, and certain ladies of rank. He introduced too a law restraining the cruel greed of the usurers, and forbidding them to lend at interest sums repayable on a father's death. He also conveyed by an aqueduct into Rome the waters which flow from the hills of Simbrua. And he likewise invented and published for use some new letters, having discovered, as he said, that even the Greek alphabet had not been completed at once.

14. It was the Egyptians who first symbolized ideas, and that by the figures of animals. These records, the most ancient of all human history, are still seen engraved on stone. The Egyptians also claim to have invented the alphabet, which the Phoenicians, they say, by means of their superior seamanship, introduced into Greece, and of which they appropriated the glory, giving out that they had discovered what they had really been taught. Tradition indeed says that Cadmus, visiting Greece in a Phoenician fleet, was the teacher of this art to its yet barbarous tribes. According to one account, it was Cecrops of Athens or Linus of Thebes, or Palamedes of Argos in Trojan times who invented the shapes of sixteen letters, and others, chiefly Simonides, added the rest. In Italy the Etrurians learnt them from Demaratus of Corinth, and the Aborigines from the Arcadian Evander. And so the Latin letters have the same form as the oldest Greek characters. At first too our alphabet was scanty, and additions were afterwards made. Following this precedent Claudius added three letters, which were employed during his reign and subsequently disused. These may still be seen on the tablets of brass set up in the squares and temples, on which new statutes are published.

18 AUGUSTINE: *Confessions*, BK X, par 19 76a-b; BK XIII, par 34 119d-120b / *City of God*, BK X, CH 13, 307b / *Christian Doctrine*, BK II, CH 1-4 636b,d-638a; CH 24 648d-649a

Confessions, BK X, par 19 76a-b

[XII] 19. The memory containeth also reasons and laws innumerable of numbers and dimensions, none of which hath any bodily sense impressed; seeing they have neither colour, nor sound, nor taste, nor smell, nor touch. I have heard the sound of the words whereby when discussed they are denoted: but the sounds are other than the things. For the sounds are other in Greek than in Latin; but the things are neither Greek, nor Latin, nor any other language. I have seen the lines of architects, the very finest, like a spider's thread; but those are still different, they are not the images of those lines which the eye of flesh showed me: he knoweth them, whosoever without any conception whatsoever of a body, recognises them within himself. I have perceived also the numbers of the things with which we number all the senses of my body; but those numbers wherewith we number are different, nor are they the images of these, and therefore they indeed are. Let him who seeth them not, deride me for saying these things, and I will pity him, while he derides me.

Confessions, BK XIII, par 34 119d-120b

34. Man therefore, whom Thou hast made after Thine own image, received not dominion over the lights of heaven, nor over that hidden heaven itself, nor over the day and the night, which Thou calledst before the foundation of the heaven, nor over the gathering together of the waters, which is the sea; but He received dominion over the fishes of the sea, and the fowls of the air, and over all cattle, and over all the earth, and over all creeping things which creep upon the earth. For He judgeth and approveth what He findeth right, and He disalloweth what He findeth amiss, whether in the celebration of those Sacraments by which such are initiated, as Thy mercy searches out in many waters: or in that, in which that Fish is set forth, which, taken out of the deep, the devout earth feedeth upon: or in the expressions and signs of words, subject to the authority of Thy Book, — such signs, as proceed out of the mouth, and sound forth, flying as it were under the firmament, by interpreting, expounding, discoursing disputing, consecrating, or praying unto Thee, so that the people may answer, “Amen”. The vocal pronouncing of all which words, is occasioned by the deafness of this world, and the blindness of the flesh, which cannot see thoughts; So that there is need to speak aloud into the ears; so that, although flying fowls be multiplied upon the earth, yet they derive their beginning from the waters. The spiritual man judgeth also by allowing of what is right, and disallowing what he finds amiss, in the works and lives of the faithful; their alms, as it were “the earth bringing forth fruit,” and of the “living soul,” living by the taming of the affections, in chastity, in fasting, in holy meditations; and of those things, which are perceived by the senses of the body. Upon all these is he now said to judge, wherein he hath also power of correction.

City of God, BK X, CH 13, 307b

Chap. 13. *Of the invisible God, who has often made Himself visible, not as He really is, but as the beholders could bear the sight.*

Neither need we be surprised that God, invisible as He is, should often have appeared visibly to the patriarchs. For as the sound which communicates the thought conceived in the silence of the mind is not the thought itself, so the form by which God, invisible in His own nature, became visible, was not God Himself. Nevertheless it is He Himself who was seen under that form, as that thought itself is heard in the sound of the voice; and the patriarchs recognized that, though the bodily form was not God, they saw the invisible God. For, though Moses conversed with God, yet he said, “If I have found grace in Thy sight, show me Thyself, that I may see and know Thee.”²

² Ex. 33. 13.

Chap. 1. *Signs, their nature and variety*

1. As when I was writing about things, I introduced the subject with a warning against attending to anything but what they are in themselves,³ even though they are signs of something else, so now, when I come in its turn to discuss the subject of sign, I lay down this direction, not to attend to what they are in themselves, but to the fact that they are signs, that is, to what they signify. For a sign is a thing which, over and above the impression it makes on the senses, causes something else to come into the mind as a consequence of itself as when we see a footprint, we conclude that an animal whose footprint this is has passed by; and when we see smoke, we know that there is fire beneath; and when we hear the voice of a living man, we think of the feeling in his mind; and when the trumpet sounds, soldiers know that they are to advance or retreat, or do whatever else the state of the battle requires.

2. Now some signs are natural, others conventional. Natural signs are those which, apart from any intention or desire of using them as signs, do yet lead to the knowledge of something else, as, for example, smoke when it indicates fire. For it is not from any intention of making it a sign that it is so, but through attention to experience we come to know that fire is beneath, even when nothing but smoke can be seen. And the footprint of an animal passing by belongs to this class of signs. And the countenance of an angry or sorrowful man indicates the feeling in his mind, independently of his will: and in the same way every other emotion of the mind is betrayed by the telltale countenance, even though we do nothing with the intention of making it known. This class of signs however, it is no part of my design to discuss at present. But as it comes under this division of the subject, I could not altogether pass it over. It will be enough to have noticed it thus far.

Chap. 2. *Of the kind of signs we are now concerned with*

3. Conventional signs, on the other hand, are those which living beings mutually exchange for the purpose of showing, as well as they can, the feelings of their minds, or their perceptions, or their thoughts. Nor is there any reason for giving a sign except the desire of drawing forth and conveying into another's mind what the giver of the sign has in his own mind. We wish, then, to consider and discuss this class of signs so far as men are concerned with it, because even the signs which have been given us of God, and which are contained in the Holy Scriptures, were made known to us through men—those, namely, who wrote the Scriptures. The beasts, too, have certain signs among themselves by which they make known the desires in their mind. For when the poultry-cock has discovered

³ See BK I. ch. 2

food, he signals with his voice for the hen to run to him, and the dove by cooing calls his mate, or is called by her in turn; and many signs of the same kind are matters of common observation. Now whether these signs, like the expression or the cry of a man in grief, follow the movement of the mind instinctively and apart from any purpose, or whether they are really used with the purpose of signification, is another question, and does not pertain to the matter in hand. And this part of the subject I exclude from the scope of this work as not necessary to my present object.

Chap. 3. *Among signs, words hold the chief place*

4. Of the signs, then, by which men communicate their thoughts to one another, some relate to the sense of sight, some to that of hearing, a very few to the other senses. For, when we nod, we give no sign except to the eyes of the man to whom we wish by this sign to impart our desire. And some convey a great deal by the motion of the hands: and actors by movements of all their limbs give certain signs to the initiated, and, so to speak, address their conversation to the eyes: and the military standards and flags convey through the eyes the will of the commanders. And all these signs are as it were a kind of visible words. The signs that address themselves to the ear are, as I have said, more numerous, and for the most part consist of words. For though the bugle and the flute and the lyre frequently give not only a sweet but a significant sound, yet all these signs are very few in number compared with words. For among men words have obtained far and away the chief place as a means of indicating the thoughts of the mind. Our Lord, it is true, gave a sign through the odor of the ointment which was poured out upon His feet;⁴ and in the sacrament of His body and blood He signified His will through the sense of taste; and when by touching the hem of His garment the woman was made whole, the act was not wanting in significance.⁵ But the countless multitude of the signs through which men express their thoughts consist of words. For I have been able to put into words all those signs, the various classes of which I have briefly touched upon, but I could by no effort express words in terms of those signs.

Chap. 4. *Origin of writing*

5. But because words pass away as soon as they strike upon the air, and last no longer than their sound, men have by means of letters formed signs of words. Thus the sounds of the voice are made visible to the eye, not of course as sounds, but by means of certain signs. It has been found impossible, however, to make those signs common to all nations owing to the sin of discord among men, which springs from every man trying to snatch the chief place for himself. And that celebrated tower which was built to reach to heaven was an indication of this arrogance of spirit; and

⁴ John, 12.3-7; Mark, 14.8.

⁵ Matt. 9.20.

the ungodly men concerned in it justly earned the punishment of having not their minds only, but their tongues besides, thrown into confusion and discordance.⁶

Christian Doctrine, BK II, CH 24 648d-649a

Chap. 24. *The intercourse and agreement with demons which superstitious observances maintain*

37. And all these omens are of force just so far as has been arranged with the devils by that previous understanding in the mind which is, as it were, the common language, but they are all full of hurtful curiosity, torturing anxiety, and deadly slavery. For it was not because they had meaning that they were attended to, but it was by attending to and marking them that they came to have meaning. And so they are made different for different people, according to their several notions and prejudices. For those spirits which are bent upon deceiving, take care to provide for each person the same sort of omens as they see his own conjectures and preconceptions have already entangled him in. For, to take an illustration, the same figure of the letter X, which is made in the shape of a cross, means one thing among the Greeks and another among the Latins, not by nature, but by agreement and pre-arrangement as to its signification; and so, any one who knows both languages uses this letter in a different sense when writing to a Greek from that in which he uses it when writing to a Latin. And the same sound, *beta*, which is the name of a letter among the Greeks, is the name of a vegetable among the Latins; and when I say, *lege*, these two syllables mean one thing to a Greek and another to a Latin. Now, just as all these signs affect the mind according to the arrangements of the community in which each man lives, and affect different men's minds differently, because these arrangements are different; and as, further, men did not agree upon them as signs because they were already significant, but on the contrary they are now significant because men have agreed upon them; in the same way also, those signs by which the ruinous intercourse with devils is maintained have meaning just in proportion to each man's observations. And this appears quite plainly in the rites of the augurs; for they, both before they observe the omens and after they have completed their observations, take pains not to see the flight or hear the cries of birds, because these omens are of no significance apart from the previous arrangement in the mind of the observer.

⁶ Gen. 11.

19 AQUINAS: *Summa Theologica*, PART I, Q 107, A 1, REP 1-3 549b-550b

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

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

Objection 1. For Gregory says (*Moral.* xviii)⁷ 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, 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 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):⁸ "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).⁹ 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."¹⁰ 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

⁷ Chap 48 (PL 76,84).

⁸ Chap. 7 (PL 75,559).

⁹ PL 42, 1042, 1043.

¹⁰ Averroes, *In De An.*, II, 18 (VI, 2, 161E).

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 made known to another; but some sensible sign must be used. Gregory alludes to this fact when he says (*Moral. ii*):¹¹ "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 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.

20 AQUINAS: *Summa Theologica*, PART III, Q 60, A 6, ANS 851b-852b

Article 6. Whether Words Are Required for the Significance of the Sacraments?

We proceed thus to the Sixth Article: It seems that words are not required for the signification of the sacrament.

¹¹ Chap. 7 (PL 75, 559).

Objection 1. For Augustine says (*Contra Faust.* xix, 16):¹² "What else is a corporeal sacrament but a kind of visible word?" Wherefore to add words to the sensible things in the sacraments seems to be the same as to add words to words. But this is superfluous. Therefore words are not required besides the sensible things in the sacraments.

Obj. 2. Further, a sacrament is some one thing. But it does not seem possible to make one thing of those that belong to different genera. Since, therefore, sensible things and words are of different genera, for sensible things are the product of nature, but words, of reason; it seems that in the sacraments, words are not required besides sensible things.

Obj. 3. Further, the sacraments of the New Law succeed those of the Old Law, since "the former were instituted when the latter were abolished," as Augustine says (*Contra Faust.* xix, 13).¹³ But no form of words was required in the sacraments of the Old Law. Therefore neither is it required in those of the New Law.

On the contrary, The Apostle says (Eph. 5:25, 26): *Christ loved the Church, and delivered Himself up for it; that He might sanctify it, cleansing it by the laver of water in the word of life.* And Augustine says (*Tract. xxx in Joann.*):¹⁴ "The word is added to the element, and this becomes a sacrament."

I answer that, The sacraments, as stated above (AA 2, 3), are employed as signs for man's sanctification. Consequently they can be considered in three ways: and in each way it is fitting for words to be added to the sensible signs. For in the first place they can be considered in regard to the cause of sanctification, which is the Word incarnate: to Whom the sacraments have a certain conformity, in that the word is joined to the sensible sign, just as in the mystery of the Incarnation the Word of God is united to sensible flesh.

Secondly, sacraments may be considered on the part of man who is sanctified, and who is composed of soul and body: to whom the sacramental remedy is adjusted, since it touches the body through the sensible element, and the soul through faith in the words. Hence Augustine says (*Tract. lxxx in Joan.*)¹⁵ on Jn. 15:3, Now you are clean by reason of the word, etc.: "Whence hath water this so great virtue, to touch the body and wash the heart, but by the word doing it, not because it is spoken, but because it is believed?"

Thirdly, a sacrament may be considered on the part of the sacramental signification. Now Augustine says¹⁶ that "words are the principal signs used by men," because words can be formed in various ways for the purpose of

¹² PL 42, 356.

¹³ PL 42, 355.

¹⁴ PL 35, 1840.

¹⁵ PL 35, 1840.

¹⁶ *Christian Doctrine*, II, 3 (PL 34, 37).

signifying various mental concepts, so that we are able to express our thoughts with greater distinctness by means of words. And therefore in order to insure the perfection of sacramental signification it was necessary to determine the signification of the sensible things by means of certain words. For water may signify both a cleansing by reason of its humidity, and refreshment by reason of its being cool: but when we say, "I baptize thee," it is clear that we use water in baptism in order to signify a spiritual cleansing.

Reply Obj. 1. The sensible elements of the sacraments are called words by way of a certain likeness, in so far as they partake of a certain significative power, which resides principally in the very words, as stated above. Consequently it is not a superfluous repetition to add words to the visible element in the sacraments; because one determines the other, as stated above.

Reply Obj. 2. Although words and other sensible things are not in the same genus, considered in their natures, yet have they something in common as to the thing signified by them: which is more perfectly done in words than in other things. Wherefore in the sacraments, words and things, like form and matter, combine in the formation of one thing, in so far as the signification of things is completed by means of words, as above stated. And under words are comprised also sensible actions, such as cleansing and anointing and such like: because they have a like signification with the things.

Reply Obj. 3. As Augustine says (*Contra Faust.* xix, 16),¹⁷ the sacraments of things present should be different from sacraments of things to come. Now the sacraments of the Old Law foretold the coming of Christ. Consequently they did not signify Christ so clearly as the sacraments of the New Law, which flow from Christ Himself, and have a certain likeness to Him, as stated above. Nevertheless in the Old Law, certain words were used in things pertaining to the worship of God, both by the priests, who were the ministers of those sacraments, according to Num. 6:23, 24: *Thus shall you bless the children of Israel, and you shall say to them: The Lord bless thee, etc.*; and by those who made use of those sacraments, according to Deut. 26:3: *I profess this day before the Lord thy God, etc.*

21 DANTE: *Divine Comedy*, PARADISE, XXVI [124-138] 147a-b

"... The tongue which I spoke was all extinct long before the people of Nimrod attempted their unaccomplishable work; for never was any product of the reason durable for ever, because of human liking, which alters, following the heavens. That man speaks is work of nature; but, thus or thus, nature then leaves to you to do according as it pleases you. Before I

¹⁷ PL 42, 356.

descended to the infernal anguish, the Supreme Good, whence comes the gladness that swathes me, was on earth called *I*; afterwards it was called *El*,¹⁸ and that must needs me, for the custom of mortals is as a leaf on a branch, which goes away and another comes. On the mountain which rises highest from the wave I was, with pure life and sinful, from the first hour to that which follows the sixth, when the sun changes quadrant."

23 HOBBS: *Leviathan*, PART I, 54c-56a

CHAPTER IV

Of Speech

THE INVENTION of printing, though ingenious compared with the invention of 'letters,' is no great matter. But who was the first that found the use of letters is not known. He that first brought them into Greece men say was Cadmus, the son of Agenor, King of Phoenicia. A profitable invention for continuing the memory of time past and the conjunction of mankind, dispersed into so many and distant regions of the earth; and withal difficult, as proceeding from a watchful observation of the divers motions of the tongue, palate, lips, and other organs of speech, whereby to make as many differences of characters, to remember them. But the most noble and profitable invention of all other was that of *speech* consisting of names or appellations, and their connexion; whereby men register their thoughts, recall them when they are past, and also declare them one to another for mutual utility and conversation; without which there had been amongst men neither Commonwealth, nor society, nor contract, nor peace, no more than amongst lions, bears, and wolves. The first author of speech was God himself, that instructed Adam how to name such creatures as He presented to his sight; for the Scripture goeth no further in this matter. But this was sufficient to direct him to add more names, as the experience and use of the creatures should give him occasion; and to join them in such manner by degrees as to make himself understood; and so, by succession of time, so much language might be gotten as he had found use for; though not so copious, as an orator or philosopher has need of. For I do not find anything in Scripture out of which, directly or by consequence, can be gathered that Adam was taught the names of all figures, numbers, measures, colours, sounds, fancies, relations; much less the names of words and speech, as *general, special, affirmative, negative, interrogative, optative, infinitive*, all which are useful; and, least of all, of *entity, intentionality, quiddity*, and other insignificant words of the school.

But all this language gotten, and augmented by Adam and his posterity was again lost at the tower of Babel, when by the hand of God every man was

¹⁸ *I* is here to be pronounced *jah*; see Psalms, 68. 4.

stricken for his rebellion with an oblivion of his former language. And being hereby forced to disperse themselves into several parts of the world, it must needs be that the diversity of tongues that now is proceeded by degrees from them in such manner as need, the mother of all inventions, taught them, and in tract of time grew everywhere more copious.

The general use of speech is to transfer our mental discourse into verbal, or the train of our thoughts into a train of words, and that for two commodities; whereof one is registering of the consequences of our thoughts, which being apt to slip out of our memory and put us to a new labour, may again be recalled by such words as they were marked by. So that the first use of names is to serve for marks, or notes, of remembrance. Another is when many use the same words to signify, by their connexion and order one to another, what they conceive or think of each matter; and also what they desire, fear, or have any other passion for. And for this use they are called *signs*. Special uses of speech are these: first, to register what by cogitation we find to be the cause of anything, present or past; and what we find things present or past may produce, or effect; which, in sum, is acquiring of arts. Secondly, to show to others that knowledge which we have attained; which is to counsel and teach one another. Thirdly, to make known to others our wills and purposes that we may have the mutual help of one another. Fourthly, to please and delight ourselves, and others, by playing with our words, for pleasure or ornament, innocently.

To these uses, there are also four correspondent abuses. First, when men register their thoughts wrong by the inconstancy of the signification of their words; by which they register for their conceptions that which they never conceived, and so deceive themselves. Secondly, when they use words metaphorically; that is, in other sense than that they are ordained for, and thereby deceive others. Thirdly, when by words they declare that to be their will which is not. Fourthly, when they use them to grieve one another: for seeing nature hath armed living creatures, some with teeth, some with horns, and some with hands, to grieve an enemy, it is but an abuse of speech to grieve him with the tongue, unless it be one whom we are obliged to govern; and then it is not to grieve, but to correct and amend. The manner how speech serveth to the remembrance of the consequence of causes and effects consisteth in the imposing of *names*, and the connexion of them.

Of names, some are *proper*, and singular to one only thing; as Peter, John, this man, this tree: and some are *common* to many things; as man, horse, tree; every of which, though but one name, is nevertheless the name of diverse particular things; in respect of all which together, it is called an *universal*, there being nothing in the world universal but names; for the things named are every one of them individual and singular.

One universal name is imposed on many things for their similitude in some quality, or other accident: and whereas a proper name bringeth to mind one thing only, universals recall any one of those many.

And of names universal, some are of more and some of less extent, the larger comprehending the less large; and some again of equal extent, comprehending each other reciprocally. As for example, the name *body* is of larger signification than the word *man*, and comprehendeth it; and the names *man* and *rational* are of equal extent, comprehending mutually one another. But here we must take notice that by a name is not always understood, as in grammar, one only word, but sometimes by circumlocution many words together. For all these words, *He that in his actions observeth the laws of his country*, make but one name, equivalent to this one word, *just*.

By this imposition of names, some of larger, some of stricter signification, we turn the reckoning of the consequences of things imagined in the mind into a reckoning of the consequences of appellations. For example, a man that hath no use of speech at all, (such as is born and remains perfectly deaf and dumb), if he set before his eyes a triangle, and by it two right angles (such as are the corners of a square figure), he may by meditation compare and find that the three angles of that triangle are equal to those two right angles that stand by it. But if another triangle be shown him different in shape from the former, he cannot know without a new labour whether the three angles of that also be equal to the same. But he that hath the use of words, when he observes that such equality was consequent, not to the length of the sides, nor to any other particular thing in his triangle; but only to this, that the sides were straight, and the angles three, and that that was all, for which he named it a triangle; will boldly conclude universally that such equality of angles is in all triangles whatsoever, and register his invention in these general terms: *Every triangle hath its three angles equal to two right angles*. And thus the consequence found in one particular comes to be registered and remembered as a universal rule; and discharges our mental reckoning of time and place, and delivers us from all labour of the mind, saving the first; and makes that which was found true *here*, and *now*, to be the true in *all times* and *places*.

But the use of words in registering our thoughts is in nothing so evident as in numbering. A natural fool that could never learn by heart the order of numeral words, as *one*, *two*, and *three*, may observe every stroke of the clock, and nod to it, or say *one*, *one*, *one*, but can never know what hour it strikes. And it seems there was a time when those names of number were not in use; and men were fain to apply their fingers for one or both hands to those things they desired to keep account of; and that thence it proceeded that now our numeral words are but ten, in any nation, and in some but five, and then they begin again. And he that can tell ten, if he

recite them out of order, will lose himself, and not know when he has done: much less will he be able to add, and subtract, and perform all other operations of arithmetic. So that without words there is no possibility of reckoning of numbers; much less of magnitudes, of swiftness, of force, and other things, the reckonings whereof are necessary to the being or well-being of mankind.

25 MONTAIGNE: *Essays*, 300c

Amongst so many garrisoned houses, I am the only person in France, of my condition that I know of, who have purely intrusted mine to the protection of heaven, without removing either plate, deeds, or hangings. I will neither fear nor save myself by halves. If a full acknowledgment can acquire the Divine favour, it will stay with me to the end : if not, I have still continued long enough to render my continuance remarkable and fit to be recorded. How? Why, I have lived thirty years.

XVI. OF GLORY

There is the name and the thing: the name is a voice which denotes and signifies the thing; the name is no part of the thing, nor of the substance; 'tis a foreign piece joined to the thing, and outside it.

God, who is all fulness in Himself and the height of all perfection, cannot augment or add anything to Himself within; but His name may be augmented and increased by the blessing and praise we attribute to His exterior works: which praise, seeing we cannot incorporate it in Him, forasmuch as He can have no accession of good, we attribute to His name, which is the part out of Him that is nearest to us.

30 BACON: *Advancement of Learning*, 62d-63a

3. These notes of cogitations are of two sorts; the one when the note hath some similitude or congruity with the notion: the other ad placitum, having force only by contract or acceptation. Of the former sort are hieroglyphics and gestures. For as to hieroglyphics (things of ancient use, and embraced chiefly by the Egyptians, one of the most ancient nations), they are but as continued impreses and emblems. And as for gestures, they are as transitory hieroglyphics, and are to hieroglyphics as words spoken are to words written, in that they abide not; but they have evermore, as well as the other, an affinity with the things signified. As Periander, being consulted with how to preserve a tyranny newly usurped, bid the messenger attend and report what he saw him do; and went into his garden and topped all the highest flowers: signifying, that it consisted in the cutting off and

keeping low of the nobility and grandees.¹⁹ *Ad placitum*, are the characters real before mentioned, and words: although some have been willing by curious inquiry, or rather by apt feigning, to have derived imposition of names from reason and intendment; a speculation elegant, and, by reason it searcheth into antiquity, reverent; but sparingly mixed with truth, and of small fruit. This portion of knowledge, touching the notes of things, and cogitations in general, I find not inquired, but deficient. And although it may seem of no great use, considering that words and writings by letters do far excel all the other ways; yet because this part concerneth, as it were, the mint of knowledge (for words are the tokens current and accepted for conceits, as moneys are for values, and that it is fit men be not ignorant that moneys may be of another kind than gold and silver), I thought good to propound it to better inquiry.

31 DESCARTES: *Discourse*, PART V, 59c-60b

Here I specially stopped to show that if there had been such machines, possessing the organs and outward form of a monkey or some other animal without reason, we should not have had any means of ascertaining that they were not of the same nature as those animals. On the other hand, if there were machines which bore a resemblance to our body and imitated our actions as far as it was morally possible to do so, we should always have two very certain tests by which to recognise that, for all that, they were not real men. The first is, that they could never use speech or other signs as we do when placing our thoughts on record for the benefit of others. For we can easily understand a machine's being constituted so that it can utter words, and even emit some responses to action on it of a corporeal kind, which brings about a change in its organs; for instance, if it is touched in a particular part it may ask what we wish to say to it; if in another part it may exclaim that it is being hurt, and so on. But it never happens that it arranges its speech in various ways, in order to reply appropriately to everything that may be said in its presence, as even the lowest type of man can do. And the second difference is, that although machines can perform certain things as well as or perhaps better than any of us can do, they infallibly fall short in others, by the which means we may discover that they did not act from knowledge, but only from the disposition of their organs. For while reason is a universal instrument which can serve for all contingencies, these organs have need of some special adaptation for every particular action. From this it follows that it is morally impossible that there should be sufficient diversity in any machine to allow

¹⁹ Aristotle, *Politics* Bk III, 13. The person who sent to consult Periander was Thrasybulus of Miletus. Herodotus (Bk. V. 92) gives the opposite version of the story, making Periander consult Thrasybulus. Compare the story of Tarquin, told by Ovid, *Fasti*, II. 701.

it to act in all the events of life in the same way as our reason causes us to act.

By these two methods we may also recognise the difference that exists between men and brutes. For it is a very remarkable fact that there are none so depraved and stupid, without even excepting idiots, that they cannot arrange different words together, forming of them a statement by which they make known their thoughts; while, on the other hand, there is no other animal, however perfect and fortunately circumstanced it may be, which can do the same. It is not the want of organs that brings this to pass, for it is evident that magpies and parrots are able to utter words just like ourselves, and yet they cannot speak as we do, that is, so as to give evidence that they think of what they say. On the other hand, men who, being born deaf and dumb, are in the same degree, or even more than the brutes, destitute of the organs which serve the others for talking, are in the habit of themselves inventing certain signs by which they make themselves understood by those who, being usually in their company, have leisure to learn their language. And this does not merely show that the brutes have less reason than men, but that they have none at all, since it is clear that very little is required in order to be able to talk. And when we notice the inequality that exists between animals of the same species, as well as between men, and observe that some are more capable of receiving instruction than others, it is not credible that a monkey or a parrot, selected as the most perfect of its species, should not in these matters equal the stupidest child to be found, or at least a child whose mind is clouded, unless in the case of the brute the soul were of an entirely different nature from ours. And we ought not to confound speech with natural movements which betray passions and may be imitated by machines as well as be manifested by animals; nor must we think, as did some of the ancients, that brutes talk, although we do not understand their language. For if this were true, since they have many organs which are allied to our own, they could communicate their thoughts to us just as easily as to those of their own race. It is also a very remarkable fact that although there are many animals which exhibit more dexterity than we do in some of their actions, we at the same time observe that they do not manifest any dexterity at all in many others. Hence the fact that they do better than we do does not prove that they are endowed with mind, for in this case they would have more reason than any of us, and would surpass us in all other things. It either shows that they have no reason at all, and that it is nature which acts in them according to the disposition of their organs, just as a clock which is only composed of wheels and weights is able to tell the hours and measure the time more correctly than we can do with all our wisdom.

33 PASCAL: *Geometrical Demonstration*, 430b-431b

SECTION 1. *Concerning the method of geometrical demonstrations, that is, scientific and perfect demonstrations.*

I can give no clearer idea of the procedure we should follow to make our demonstrations convincing than by expounding the method observed in geometry.

But first I must give the idea of a method still more eminent and complete, but a method to which man could never attain. For what goes beyond geometry goes beyond man. Nevertheless I must say something about it although it is impossible to put it into practice.

This true method, which would produce demonstrations of supreme excellence if it were possible to attain to it, would consist of two main rules: to use no term of which we had not already clearly explained the meaning, and never to put forward any proposition unless demonstrated by truths already known; that is, in a word, to define all the terms and to prove all the propositions. But to follow the very order I am expounding I must state what I understand by definition.

Geometry recognizes only those definitions which logicians call nominal, impositions of a name, that is, on things clearly designated by terms perfectly well known. I speak of such definitions only.

Their usefulness and function is to clarify discourse and to make it more concise by expressing by the name we impose what would otherwise require several terms, in such a way however that the name imposed remains deprived of every other meaning, if it has any, keeping only that one to which it has been uniquely assigned. For example, if we need to distinguish among the numbers those which can be divided into two equal parts from those which cannot, in order to avoid the frequent repetition of this condition we give it a name as follows: I call every number that can be divided into two equal parts an even number.

This is a geometrical definition, because after a thing, in this case every number that can be divided into two equal parts, has been clearly pointed out, it is given a name emptied of all other meaning, if it has any, that it may take the meaning of the thing pointed out.

Whence it is evident that there is great freedom of definition and that definitions are never subject to contradiction, for nothing is more permissible than to give whatever name we please to a thing we have clearly pointed out. Only we must be careful not to take advantage of our freedom to impose names by giving the same name to two different things. Nor that it is inadmissible to do so if we avoid confusion by not extending the consequences of one to the other.

But if we fall into this vice, we can apply to it a most sure and infallible remedy, which is to substitute in the mind the definition in place of the

thing defined and always to have such an awareness of the definition that every time we speak, for example, of an even number, we mean precisely a number that can be divided into two equal parts, and that we understand these two things as being so inseparably joined in thought that as soon as one of them occurs in discourse the mind at once attaches the other to it. For geometers and all those who proceed scientifically impose names on things only for concision of discourse and not to impoverish or alter the idea of the subjects of discourse. And they expect the mind always to supplement with the whole definition the short terms, which they use only to avoid the confusion caused by a multitude of words.

Nothing acts more quickly and more effectively against the surprise attacks of captious sophists than this method, which we must always have ready for use, and which alone suffices to banish every kind of difficulty and equivocation.

With these things well understood, I return to my account of the true order, which consists, as I was saying, in defining everything and in proving everything.

Certainly this method would be beautiful, but it is absolutely impossible. For it is evident that the first terms we wished to define would presuppose others for their explication, and that similarly the first propositions we wished to prove would suppose others that preceded them. And thus it is clear we should never arrive at the first propositions.

Accordingly, as we proceed ever further with our investigations, we come of necessity to primitive words which can no longer be defined and to principles so clear that it is no longer possible to find others more clear for their demonstration. Whence it is apparent that men are naturally and inevitably powerless to deal with any science whatsoever in an absolutely perfect order.

35 LOCKE: *Human Understanding*, BK II, CH XVI, SECT 5-7 166b-167b; CH XVIII, SECT 7 174d-175a; CH XXII, SECT 5-7 201d-202b; CH XXIII, SECT 36 213c-d; CH XXVIII, SECT 2 228c-229a; BK III, CH I, SECT I-CH II, SECT 2 251 b,d-253c; CH II, SECT 8-CH III, SECT 5 254b-255c; CH V, SECT 8 265c-266a; CH VI, SECT 43-51 280c-283a; CH X, SECT 24 298b; SECT 27 298c-d; SECT 31 299a; CH XI, SECT 5 300d; BK IV, CH V, SECT 10 331a; CH XXI, SECT 4 395a,c

Human Understanding, BK II, CH XVI, SECT 5-7 166b-167b

5. *Names necessary to numbers.* By the repeating, as has been said, the idea of an unit, and joining it to another unit, we make thereof one collective idea, marked by the name two. And whosoever can do this, and proceed on,

still adding one more to the last collective idea which he had of any number, and gave a name to it, may count, or have ideas, for several collections of units, distinguished one from another, as far as he hath a series of names for following numbers, and a memory to retain that series, with their several names: all numeration being but still the adding of one unit more, and giving to the whole together, as comprehended in one idea, a new or distinct name or sign, whereby to know it from those before and after, and distinguish it from every smaller or greater multitude of units. So that he that can add one to one, and so to two, and so go on with his tale, taking still with him the distinct names belonging to every progression; and so again, by subtracting an unit from each collection, retreat and lessen them, is capable of all the ideas of numbers within the compass of his language, or for which he hath names, though not perhaps of more. For, the several simple modes of numbers being in our minds but so many combinations of units, which have no variety, nor are capable of any other difference but more or less, names or marks for each distinct combination seem more necessary than in any other sort of ideas. For, without such names or marks, we can hardly well make use of numbers in reckoning, especially where the combination is made up of any great multitude of units; which put together, without a name or mark to distinguish that precise collection, will hardly be kept from being a heap in confusion.

6. *Another reason for the necessity of names to numbers.* This I think to be the reason why some Americans I have spoken with, (who were otherwise of quick and rational parts enough,) could not, as we do, by any means count to 1000; nor had any distinct idea of that number, though they could reckon very well to 20. Because their language being scanty, and accommodated only to the few necessities of a needy, simple life, unacquainted either with trade or mathematics, had no words in it to stand for 1000; so that when they were discoursed with of those greater numbers, they would show the hairs of their head, to express a great multitude, which they could not number; which inability, I suppose, proceeded from their want of names. The *Tououpinambos* had no names for numbers above 5; any number beyond that they made out by showing their fingers, and the fingers of others who were present.²⁰ And I doubt not but we ourselves might distinctly number in words a great deal further than we usually do, would we find out but some fit denominations to signify them by; whereas, in the way we take now to name them, by millions of millions of millions, &c., it is hard to go beyond eighteen, or at most, four and twenty, decimal progressions, without confusion. But to show how much distinct names conduce to our well reckoning, or having useful ideas of numbers, let us see

²⁰ *Histoire d'un Voyage, fait en la Terre du Brésil*, par Jean de Lery, chap. XX. pp. 307-382.

all these following figures in one continued line, as the marks of one number: v. g.

<i>Nonillions</i>	<i>Octillions</i>	<i>Septillions</i>	<i>Sextillions</i>	<i>Quintrillions</i>
857324	162486	345896	437918	423174
<i>Quartrillions</i>	<i>Trillions</i>	<i>Billions</i>	<i>Millions</i>	<i>Units</i>
248106	235421	261734	368149	623137

The ordinary way of naming this number in English, will be the often repeating of millions, of millions, of millions, of millions, of millions, of millions, of millions, of millions, (which is the denomination of the second six figures). In which way, it will be very hard to have any distinguishing notions of this number. But whether, by giving every six figures a new and orderly denomination, these, and perhaps a great many more figures in progression, might not easily be counted distinctly, and ideas of them both got more easily to ourselves, and more plainly signified to others, I leave it to be considered. This I mention only to show how necessary distinct names are to numbering, without pretending to introduce new ones of my invention.

7. *Why children number not earlier.* Thus children, either for want of names to mark the several progressions of numbers, or not having yet the faculty to collect scattered ideas into complex ones, and range them in a regular order, and so retain them in their memories, as is necessary to reckoning, do not begin to number very early, nor proceed in it very far or steadily, till a good while after they are well furnished with good store of other ideas: and one may often observe them discourse and reason pretty well, and have very clear conceptions of several other things, before they can tell twenty. And some, through the default of their memories, who cannot retain the several combinations of numbers, with their names, annexed in their distinct orders, and the dependence of so long a train of numeral progressions, and their relation one to another, are not able all their lifetime to reckon, or regularly go over any moderate series of numbers. For he that will count twenty, or have any idea of that number, must know that nineteen went before, with the distinct name or sign of every one of them, as they stand marked in their order; for wherever this fails, a gap is made, the chain breaks, and the progress in numbering can go no further. So that to reckon right, it is required, (1) That the mind distinguish carefully two ideas, which are different one from another only by the addition or subtraction of *one* unit: (2) That it retain in memory the names or marks of the several combinations, from an unit to that number; and that not confusedly, and at random, but in that exact order that the numbers follow

one another. In either of which, if it trips, the whole business of numbering will be disturbed, and there will remain only the confused idea of multitude, but the ideas necessary to distinct numeration will not be attained to.

Human Understanding, BK II, CH XVIII, SECT 7 174d-175a

7. *Why some modes have, and others have not, names.* The reason whereof, I suppose, has been this, — That the great concernment of men being with men one amongst another, the knowledge of men, and their actions, and the signifying of them to one another, was most necessary; and therefore they made ideas of *actions* very nicely modified, and gave those complex ideas names, that they might the more easily record and discourse of those things they were daily conversant in, without long ambages and circumlocutions; and that the things they were continually to give and receive information about might be the easier and quicker understood. That this is so, and that men in framing different complex ideas, and giving them names, have been much governed by the end of speech in general, (which is a very short and expedite way of conveying their thoughts one to another), is evident in the names which in several arts have been found out, and applied to several complex ideas of modified actions, belonging to their several trades, for dispatch sake, in their direction or discourses about them. Which ideas are not generally framed in the minds of men not conversant about these operations. And thence the words that stand for them, by the greatest part of men of the same language, are not understood: v.g. *coltshire, drilling, filtration, cohobation*, are words standing for certain complex ideas, which being seldom in the minds of any but those few whose particular employments do at every turn suggest them to their thoughts, those names of them are not generally understood but by smiths and chymists; who, having framed the complex ideas which these words stand for, and having given names to them, or received them from others, upon hearing of these names in communication, readily conceive those ideas in their minds; — as by *cohobation* all the simple ideas of distilling, and the pouring the liquor distilled from anything back upon the remaining matter, and distilling it again. Thus we see that there are great varieties of simple ideas, as of tastes and smells, which have no names; and of modes many more; which either not having been generally enough observed, or else not being of any great use to be taken notice of in the affairs and converse of men, they have not had names given to them, and so pass not for species.²¹ This we shall have occasion hereafter to consider more at large, when we come to speak of *words*.²²

²¹ See Bk. III.

²² In Bk. III. chh. v, vi.

5. *The cause of making mixed modes.* If we should inquire a little further, to see what it is that occasions men to make several combinations of simple ideas into distinct, and, as it were, settled modes, and neglect others, which in the nature of things themselves, have as much an aptness to be combined and make distinct ideas, we shall find the reason of it to be the end of language; which being to mark, or communicate men's thoughts to one another with all the dispatch that may be, they usually make *such* collections of ideas into complex modes, and affix names to them, as they have frequent use of in their way of living and conversation, leaving others, which they have but seldom an occasion to mention, loose and without names that tie them together: they rather choosing to enumerate (when they have need) such ideas as make them up, by the particular names that stand for them, than to trouble their memories by multiplying of complex ideas with names to them, which they seldom or never have any occasion to make use of.

6. *Why words in one language have none answering in another.* This shows us how it comes to pass that there are in every language many particular words which cannot be rendered by any one single word of another. For the several fashions, customs, and manners of one nation, making several combinations of ideas familiar and necessary in one, which another people have had never an occasion to make, or perhaps so much as take notice of, names come of course to be annexed to them, to avoid long periphrases in things of daily conversation; and so they become so many distinct complex ideas in *their* minds. Thus *όστρακισμός* amongst the Greeks, and *proscriptio* amongst the Romans, were words which other languages had no names that exactly answered; because they stood for complex ideas which were not in the minds of the men of other nations. Where there was no such custom, there was no notion of any such actions; no use of such combinations of ideas as were united, and, as it were, tied together, by those terms: and therefore in other countries there were no names for them.

7. *And languages change.* Hence also we may see the reason, why languages constantly change, take up new and lay by old terms. Because change of customs and opinions bringing with it new combinations of ideas, which it is necessary frequently to think on and talk about, new names, to avoid long descriptions, are annexed to them; and so they become new species of complex modes. What a number of different ideas are by this means wrapped up in one short sound, and how much of our time and breath is thereby saved, any one will see, who will but take the pains to enumerate all the ideas that either *reprieve* or *appeal* stand for; and instead of either of those names, use a periphrasis, to make any one understand their meaning.

Human Understanding, BK II, CH XXIII, SECT 36 213c-d

No Ideas in our complex ideas of spirits, but those got from sensation or reflection. This further is to be observed, that there is no idea we attribute to God, bating infinity, which is not also a part of our complex idea of other spirits. Because, being capable of no other simple ideas, belonging to anything but body, but those which by reflection we receive from the operation of our own minds, we can attribute to spirits no other but what we receive from thence: and all the difference we can put between them, in our contemplation of spirits, is only in the several extents and degrees of their knowledge, power, duration, happiness, &c. For that in our ideas, as well of spirits as of other things, we are restrained to *those we receive from sensation and reflection*, is evident from hence, — That, in our ideas of spirits, how much soever advanced in perfection beyond those of bodies, even to that of infinite, we cannot yet have any idea of the manner wherein they discover their thoughts one to another: though we must necessarily conclude that separate spirits, which are beings that have perfecter knowledge and greater happiness than we, must needs have also a perfecter way of communicating their thoughts than we have, who are fain to make use of corporeal signs, and particular sounds; which are therefore of most general use, as being the best and quickest we are capable of. But of immediate communication having no experiment in ourselves, and consequently no notion of it at all, we have no idea how spirits, which use not words, can with quickness; or much less how spirits that have no bodies can be masters of their own thoughts, and communicate or conceal them at pleasure, though we cannot but necessarily suppose they have such a power.²³

Human Understanding, BK II, CH XXVIII, SECT 2 228c-229a

2. *Natural relation.* Secondly, Another occasion of comparing things together, or considering one thing, so as to include in that consideration some other thing, is the circumstances of their origin or beginning; which being not afterwards to be altered, make the relations depending thereon as lasting as the subjects to which they belong, v.g. father and son, brothers, cousin-germans, &c., which have their relations by one community of blood, wherein they partake in several degrees: countrymen, i.e. those who were born in the same country or tract of ground; and these I call *natural relations*: wherein we may observe, that mankind have fitted their notions and words to the use of common life, and not to the truth and extent of things. For it is certain, that, in reality, the relation is the same

²³ Cf. Bk. I. ch. iii. §§ 8-17; Bk. II. ch. xv. §§ 2, 12; Bk. IV. ch. x; xvii §2, regarding our complex idea and knowledge of God, in its gradual development.

betwixt the begetter and the begotten, in the several races of other animals as well as men; but yet it is seldom said, this bull is the grandfather of such a calf, or that two pigeons are cousin-germans. It is very convenient that, by distinct names, these relations should be observed and marked out in mankind, there being occasion, both in laws and other communications one with another, to mention and take notice of men under these relations: from whence also arise the obligations of several duties amongst men: whereas, in brutes, men having very little or no cause to mind these relations, they have not thought fit to give them distinct and peculiar names. This, by the way, may give us some light into the different state and growth of languages; which being suited only to the convenience of communication, are proportioned to the notions men have, and the commerce of thoughts familiar amongst them; and not to the reality or extent of things, nor to the various respects might be found among them; nor the different abstract considerations might be framed about them. Where they had no philosophical notions, there they had no terms to express them: and it is no wonder men should have framed no names for those things they found no occasion to discourse of. From whence it is easy to imagine why, as in some countries, they may have not so much as the name for a horse; and in others, where they are more careful of the pedigrees of their horses, than of their own, that there they may have not only names for particular horses, but also of their several relations of kindred one to another.

Human Understanding, BK III, CH I, SECT I-CH II, SECT 2 251 b,d-253c
BOOK III. Of Words

Chap. I. *Of Words or Language in General*

1. *Man fitted to form articulate sounds.* God, having designed man for a sociable creature, made him not only with an inclination, and under a necessity to have fellowship with those of his own kind, but furnished him also with language, which was to be the great instrument and common tie of society. Man, therefore, had by nature his organs so fashioned, as to be fit to frame articulate sounds, which we call words. But this was not enough to produce language; for parrots, and several other birds, will be taught to make articulate sounds distinct enough, which yet by no means are capable of language.

2. *To use these sounds as signs of ideas.* Besides articulate sounds, therefore, it was further necessary that he should be able to use these sounds as signs of internal conceptions; and to make them stand as marks for the ideas within his own mind,²⁴ whereby they might be made known to others, and the thoughts of men's minds be conveyed from one to another.

²⁴ Cf. ch. ii. § 2.

3. *To make them general signs.* But neither was this sufficient to make words so useful as they ought to be. It is not enough for the perfection of language, that sounds can be made signs of ideas, unless those signs can be so made use of as to comprehend several particular things: for the multiplication of words would have perplexed their use, had every particular thing need of a distinct name to be signified by. To remedy this inconvenience, language had yet a further improvement in the use of *general terms*, whereby one word was made to mark a multitude of particular existences: which advantageous use of sounds was obtained only by the difference of the ideas they were made signs of: those names becoming general, which are made to stand for *general ideas*, and those remaining particular, where the *ideas* they are used for are *particular*.

4. *To make them signify the absence of positive ideas.* Besides these names which stand for ideas, there be other words which men make use of, not to signify any idea, but the want or absence of some ideas, simple or complex, or all ideas together; such as are *nihil* in Latin, and in English, *ignorance* and *barrenness*. All which negative or privative words cannot be said properly to belong to, or signify no ideas: for then they would be perfectly insignificant sounds; but they relate to positive ideas, and signify their absence.²⁵

5. *Words ultimately derived from such as signify sensible ideas.* It may also lead us a little towards the original of all our notions and knowledge, if we remark how great a dependence our words have on common sensible ideas; and how those which are made use of to stand for actions and notions quite removed from sense, have their rise from thence, and from obvious sensible ideas are transferred to more abstruse significations, and made to stand for ideas that come not under the cognizance of our senses; v.g. to *imagine*, *apprehend*, *comprehend*, *adhere*, *conceive*, *instil*, *disgust*, *disturbance*, *tranquillity*, &c., are all words taken from the operations of sensible things, and applied to certain modes of thinking. *Spirit*, in its primary signification, is breath; *angel*, a messenger: and I doubt not but, if we could trace them to their sources, we should find, in all languages, the names which stand for things that fall not under our senses to have had their first rise from sensible ideas. By which we may give some kind of guess what kind of notions they were, and whence derived, which filled their minds who were the first beginners of languages, and how nature, even in the naming of things, unawares suggested to men the originals and principles of all their knowledge: whilst, to give names that might make known to others any operations they felt in themselves, or any other ideas that came not under their senses, they were fain to borrow words from ordinary known ideas of sensation, by that means to make others the more easily to conceive those operations they experimented in themselves, which

²⁵ Cf. Bk. II. ch. viii. §§ 1-6.

made no outward sensible appearances; and then, when they had got known and agreed names to signify those internal operations of their own minds, they were sufficiently furnished to make known by words all their other ideas; since they could consist of nothing but either of outward sensible perceptions, or of the inward operations of their minds about them; we having, as has been proved, no ideas at all, but what originally come either from sensible objects without, or what we feel within ourselves, from the inward workings of our own spirits, of which we are conscious to ourselves within.

6. *Distribution of subjects to be treated of.* But to understand better the use and force of Language, as subservient to instruction and knowledge, it will be convenient to consider:

First, *To what it is that names, in the use of language, are immediately applied.*

Secondly, Since all (except proper) names are general, and so stand not particularly for this or that single thing, but for sorts and ranks of things, it will be necessary to consider, in the next place, what the sorts and kinds, or, if you rather like the Latin names, *what the Species and Genera of things are, wherein they consist, and how they come to be made.* These being (as they ought) well looked into, we shall the better come to find the right use of words; the natural advantages and defects of language; and the remedies that ought to be used, to avoid the inconveniences of obscurity or uncertainty in the signification of words: without which it is impossible to discourse with any clearness or order concerning knowledge: which, being conversant about propositions, and those most commonly universal ones, has greater connexion with words than perhaps is suspected.

These considerations, therefore, shall be the matter of the following chapters.²⁶

Chap. II. *Of the Signification of Words*

1. *Words are sensible signs, necessary for communication of ideas.* Man, though he have great variety of thoughts, and such from which others as well as himself might receive profit and delight; yet they are all within his own breast, invisible and hidden from others, nor can of themselves be made to appear. The comfort and advantage of society not being to be had without communication of thoughts, it was necessary that man should find out some external sensible signs, whereof those invisible ideas, which his thoughts are made up of, might be made known to others. For this purpose nothing was so fit, either for plenty or quickness, as those articulate sounds, which with so much ease and variety he found himself able to make. Thus we may conceive how *words*, which were by nature so well adapted to that purpose, came to be made use of by men as the signs of

²⁶ Cf. Locke's letter to Molyneux, Jan. 20, 1693.

their ideas; not by any natural connexion that there is between particular articulate sounds and certain ideas, for then there would be but one language amongst all men; but by a voluntary imposition, whereby such a word is made arbitrarily the mark of such an idea. The use, then, of words, is to be sensible marks of ideas; and the ideas they stand for are their proper and immediate signification.

2. *Words, in their immediate signification, are the sensible signs of his ideas who uses them.* The use men have of these marks being either to record their own thoughts, for the assistance of their own memory or, as it were, to bring out their ideas, and lay them before the view of others: words, in their primary or immediate signification, stand for nothing but *the ideas in the mind of him that uses them*, how imperfectly soever or carelessly those ideas are collected from the things which they are supposed to represent. When a man speaks to another, it is that he may be understood: and the end of speech is, that those sounds, as marks, may make known his ideas to the hearer. That then which words are the marks of are the ideas of the speaker: nor can any one apply them as marks, immediately, to anything else but the ideas that he himself hath: for this would be to make them signs of his own conceptions, and yet apply them to other ideas; which would be to make them signs and not signs of his ideas at the same time, and so in effect to have no signification at all. Words being voluntary signs, they cannot be voluntary signs imposed by him on things he knows not. That would be to make them signs of nothing, sounds without signification. A man cannot make his words the signs either of qualities in things, or of conceptions in the mind of another, whereof he has none in his own. Till he has some ideas of his own, he cannot suppose them to correspond with the conceptions of another man; nor can he use any signs for them of another man; nor can he use any signs for them: for thus they would be the signs of he knows not what, which is in truth to be the signs of nothing. But when he represents to himself other men's ideas by some of his own, if he consent to give them the same names that other men do, it is still to his own ideas; to ideas that he has, and not to ideas that he has not.

Human Understanding, BK III, CH II, SECT 8-CH III, SECT 5 254b-255c

8. *Their signification perfectly arbitrary, not the consequence of a natural connexion.* Words, by long and familiar use, as has been said, come to excite in men certain ideas so constantly and readily, that they are apt to suppose a natural connexion between them. But that they signify only men's peculiar ideas, and that *by a perfect arbitrary imposition*, is evident, in that they often fail to excite in others (even that use the same language) the same ideas we take them to be signs of: and every man has so inviolable a liberty to make words stand for what ideas he pleases, that no one hath the power to make others have the same ideas in their minds that

he has, when they use the same words that he does. And therefore the great Augustus himself, in the possession of that power which ruled the world, acknowledged he could not make a new Latin word: which was as much as to say, that he could not arbitrarily appoint what idea any sound should be a sign of, in the mouths and common language of his subjects. It is true, common use, by a tacit consent, appropriates certain sounds to certain ideas in all languages, which so far limits the signification of that sound, that unless a man applies it to the same idea, he does not speak properly: and let me add, that unless a man's words excite the same ideas in the hearer which he makes them stand for in speaking, he does not speak intelligibly. But whatever be the consequence of any man's using of words differently, either from their general meaning, or the particular sense of the person to whom he addresses them; this is certain, their signification, in his use of them, is limited to his ideas, and they can be signs of nothing else.²⁷

Chap. III. *Of General Terms*

1. *The greatest part of words are general terms.* All things that exist being particulars, it may perhaps be thought reasonable that words, which ought to be conformed to things, should be so too,- I mean in their signification: but yet we find quite the contrary. The far greatest part of words that make all languages are general terms: which has not been the effect of neglect or chance, but of reason and necessity.

2. *That every particular thing should have a name for itself is impossible.* First, It is impossible that every particular thing should have a distinct peculiar name. For, the signification and use of words depending on that connexion which the mind makes between its ideas and the sounds it uses as signs of them, it is necessary, in the application of names to things, that the mind should have distinct ideas of the things, and retain also the particular name that belongs to every one, with its peculiar appropriation to that idea. But it is beyond the power of human capacity to frame and retain distinct ideas of all the particular things we meet with: every bird and beast men saw; every tree and plant that affected the senses, could not find a place in the most capacious understanding. If it be looked on as an instance of a prodigious memory, that some generals have been able to call every soldier in their army by his proper name, we may easily find a reason why men have never attempted to give names to each sheep in their flock, or crow that flies over their heads; much less to call every leaf of plants, or grain of sand that came in their way, by a peculiar name.

3. *And would be useless, if it were possible.* Secondly, If it were possible, it would yet be useless; because it would not serve to the chief end of language. Men would in vain heap up names of particular things, that would

²⁷ *Advancement of Learning*, ii. 14.11.

not serve them to communicate their thoughts. Men learn names, and use them in talk with others, only that they may be understood: which is then only done when, by use or consent, the sound I make by the organs of speech, excites in another man's mind who hears it, the idea I apply it to in mine, when I speak it. This cannot be done by names applied to particular things; whereof I alone having the ideas in my mind, the names of them could not be significant or intelligible to another, who was not acquainted with all those very particular things which had fallen under my notice.

4. *A distinct name for every particular thing, not fitted for enlargement of knowledge.* Thirdly, But yet, granting this also feasible, (which I think is not), yet a distinct name for every particular thing would not be of any great use for the improvement of knowledge: which, though founded in particular things, enlarges itself by general views; to which things reduced into sorts, under general names, are properly subservient. These, with the names belonging to them, come within some compass, and do not multiply every moment, beyond what either the mind can contain, or use requires. And therefore, in these, men have for the most part stopped: but yet not so as to hinder themselves from distinguishing particular things by appropriated names, where convenience demands it. And therefore in their own species, which they have most to do with, and wherein they have often occasion to mention particular persons, they make use of proper names; and there distinct individuals have distinct denominations.

5. *What things have proper names, and why.* Besides persons, countries also, cities, rivers, mountains, and other the like distinctions of place have usually found peculiar names, and that for the same reason; they being such as men have often an occasion to mark particularly, and, as it were, set before others in their discourses with them. And I doubt not but, if we had reason to mention particular horses as often as we have to mention particular men, we should have proper names for the one, as familiar as for the other, and Bucephalus would be a word as much in use as Alexander. And therefore we see that, amongst jockeys, horses have their proper names to be known and distinguished by, as commonly as their servants: because, amongst them, there is often occasion to mention this or that particular horse when he is out of sight.

Human Understanding, BK III, CH V, SECT 8 265c-266a

8. *Whereof the intranslatable words of divers languages are a proof.* A moderate skill in different languages will easily satisfy one of the truth of this, it being so obvious to observe great store of words in one language which have not any that answer them in another. Which plainly shows that those of one country, by their customs and manner of life, have found occasion to make several complex ideas, and given names to them, which others never collected into specific ideas. This could not have happened if

these species were the steady workmanship of nature, and not collections made and abstracted by the mind, in order to naming, and for the convenience of communication. The terms of our law, which are not empty sounds, will hardly find words that answer them in the Spanish or Italian, no scanty languages; much less, I think, could any one translate them into the Caribbee or Westoe tongues: and the *versura* of the Romans, or *corban* of the Jews, have no words in other languages to answer them; the reason whereof is plain, from what has been said. Nay, if we look a little more nearly into this matter, and exactly compare different languages, we shall find that, though they have words which in translations and dictionaries are supposed to answer one another, yet there is scarce one of ten amongst the names of complex ideas, especially of mixed modes, that stands for the same precise idea which the word does that in dictionaries it is rendered by. There are no ideas more common and less compounded than the measures of time, extension and weight; and the Latin names, *hora*, *pes*, *libra*, are without difficulty rendered by the English names, *hour*, *foot*, and *pound*: but yet there is nothing more evident than that the ideas a Roman annexed to these Latin names, were very far different from those which an Englishman expresses by those English ones. And if either of these should make use of the measures that those of the other language designed by their names, he would be quite out in his account. These are too sensible proofs to be doubted; and we shall find this much more so in the names of more abstract and compounded ideas, such as are the greatest part of those which make up moral discourses: whose names, when men come curiously to compare with those they are translated into, in other languages, they will find very few of them exactly to correspond in the whole extent of their significations.

Human Understanding, BK III, CH VI, SECT 43-51 280c-283a

43. *Difficult to lead another by words into the thoughts of things stripped of those abstract ideas we give them.* I must beg pardon of my reader for having dwelt so long upon this subject, and perhaps with some obscurity. But I desire it may be considered, how difficult it is to lead another by words into the thoughts of things, stripped of those specific differences we give them: which things, if I name not, I say nothing; and if I do name them, I thereby rank them into some sort or other, and suggest to the mind the usual abstract idea of that species; and so cross my purpose. For, to talk of a man, and to lay by, at the same time, the ordinary signification of the name man, which is our complex idea usually annexed to it; and bid the reader consider man, as he is in himself, and as he is really distinguished from others in his internal constitution, or real essence, that is, by something he knows not what, looks like trifling: and yet thus one must do who would speak of the supposed real essences and species of things, as

thought to be made by nature, if it be but only to make it understood, that there is no such thing signified by the general names which substances are called by. But because it is difficult by known familiar names to do this, give me leave to endeavour by an example to make the different consideration the mind has of specific names and ideas a little more clear; and to show how the complex ideas of modes are referred sometimes to archetypes in the minds of other intelligent beings, or, which is the same, to the signification annexed by others to their received names; and sometimes to no archetypes at all. Give me leave also to show how the mind always refers its ideas of substances, either to the substances themselves, or to the signification of their names, as to the archetypes; and also to make plain the nature of species or sorting of things, as apprehended and made use of by us; and of the essences belonging to those species: which is perhaps of more moment to discover the extent and certainty of our knowledge than we at first imagine.

44. *Instances of mixed modes named kinneah and niouph.* Let us suppose Adam, in the state of a grown man, with a good understanding, but in a strange country, with all things new and unknown about him; and no other faculties to attain the knowledge of them but what one of this age has now. He observes Lamech more melancholy than usual, and imagines it to be from a suspicion he has of his wife Adah, (whom he most ardently loved) that she had too much kindness for another man. Adam discourses these his thoughts to Eve, and desires her to take care that Adah commit not folly: and in these discourses with Eve he makes use of these two new words *kinneah* and *niouph*. In time, Adam's mistake appears, for he finds Lamech's trouble proceeded from having killed a man: but yet the two names *kinneah* and *niouph*, (the one standing for suspicion in a husband of his wife's disloyalty to him; and the other for the act of committing disloyalty), lost not their distinct significations. It is plain then, that here were two distinct complex ideas of mixed modes, with names to them, two distinct species of actions essentially different; I ask wherein consisted the essences of these two distinct species of actions? And it is plain it consisted in a precise combination of simple ideas, different in one from the other. I ask, whether the complex idea in Adam's mind, which he called *kinneah*, were adequate or not? And it is plain it was; for it being a combination of simple ideas, which he, without any regard to any archetype, without respect to anything as a pattern, voluntarily put together, abstracted, and gave the name *kinneah* to, to express in short to others, by that one sound, all the simple ideas contained and united in that complex one; it must necessarily follow that it was an adequate idea. His own choice having made that combination, it had all in it he intended it should, and so could not but be perfect, could not but be adequate; it being referred to no other archetype which it was supposed to represent.

45. These words, *kinneah* and *niouph*, by degrees grew into common use, and then the case was somewhat altered. Adam's children had the same faculties, and thereby the same power that he had, to make what complex ideas of mixed modes they pleased in their own minds; to abstract them, and make what sounds they pleased the signs of them: but the use of names being to make our ideas within us known to others, that cannot be done, but when the same sign stands for the same idea in two who would communicate their thoughts and discourse together. Those, therefore, of Adam's children, that found these two words, *kinneah* and *niouph*, in familiar use, could not take them for insignificant sounds, but must needs conclude they stood for something; for certain ideas, abstract ideas. they being general names; which abstract ideas were the essences of the species distinguished by those names. If, therefore, they would use these words as names of species already established and agreed on, they were obliged to conform the ideas in their minds, signified by these names, to the ideas that they stood for in other men's minds, as to their patterns and archetypes; and then indeed their ideas of these complex modes were liable to be inadequate, as being very apt (especially those that consisted of combinations of many simple ideas) not to be exactly conformable to the ideas in other men's minds, using the same names; though for this there be usually a remedy at hand, which is to ask the meaning of any word we understand not of him that uses it: it being as impossible to know certainly what the words jealousy and adultery (which I think answer קנאה and נאוף) stand for in another man's mind, with whom I would discourse about them; as it was impossible, in the beginning of language, to know what *kinneah* and *niouph* stood for in another man's mind, without explication; they being voluntary signs in every one.

46. *Instances of a species of substance named Zahab.* Let us now also consider, after the same manner, the names of substances in their first application. One of Adam's children, roving in the mountains, lights on a glittering substance which pleases his eye. Home he carries it to Adam, who, upon consideration of it, finds it to be hard, to have a bright yellow colour, and an exceeding great weight. These perhaps, at first, are all the qualities he takes notice of in it; and abstracting this complex idea, consisting of a substance having that peculiar bright yellowness, and a weight very great in proportion to its bulk, he gives the name *zahab*, to denominate and mark all substances that have these sensible qualities in them. It is evident now, that, in this case, Adam acts quite differently from what he did before, in forming those ideas of mixed modes to which he gave the names *kinneah* and *niouph*. For there he put ideas together only by his own imagination, not taken from the existence of anything; and to them he gave names to denominate all things that should happen to agree to those his abstract ideas, without considering whether any such thing did

exist or not; the standard there was of his own making. But in the forming his idea of this new substance, he takes the quite contrary course; here he has a standard made by nature; and therefore, being to represent that to himself, by the idea he has of it, even when it is absent, he puts in no simple idea into his complex one, but what he has the perception of from the thing itself. He takes care that his idea be conformable to this archetype, and intends the name should stand for an idea so conformable.

47. This piece of matter, thus denominated *zahab* by Adam, being quite different from any he had seen before, nobody, I think, will deny to be a distinct species, and to have its peculiar essence: and that the name *zahab* is the mark of the species, and a name belonging to all things partaking in that essence. But here it is plain the essence Adam made the name *zahab* stand for was nothing but a body hard, shining, yellow, and very heavy. But the inquisitive mind of man, not content with the knowledge of these, as I may say, superficial qualities, puts Adam upon further examination of this matter. He therefore knocks, and beats it with flints, to see what was discoverable in the inside: he finds it yield to blows, but not easily separate into pieces: he finds it will bend without breaking. Is not now ductility to be added to his former idea, and made part of the essence of the species that name *zahab* stands for? Further trials discover fusibility and fixedness. Are not they also, by the same reason that any of the others were, to be put into the complex idea signified by the name *zahab*? If not, what reason will there be shown more for the one than the other? If these must, then all the other properties, which any further trials shall discover in this matter, ought by the same reason to make a part of the ingredients of the complex idea which the name *zahab* stands for, and so be the essence of the species marked by that name. Which properties, because they are endless, it is plain that the idea made after this fashion, by this archetype, will be always inadequate.

48. *The abstract ideas of substances always imperfect, and therefore various.* But this is not all. It would also follow that the names of substances would not only have, as in truth they have, but would also be supposed to have different significations, as used by different men, which would very much cumber the use of language. For if every distinct quality that were discovered in any matter by any one were supposed to make a necessary part of the complex idea signified by the common name given to it, it must follow, that men must suppose the same word to signify different things in different men: since they cannot doubt but different men may have discovered several qualities, in substances of the same denomination, which others know nothing of.

49. *Therefore to fix their nominal species, a real essence is supposed.* To avoid this therefore, they have supposed a real essence belonging to every species, from which these properties all flow, and would have their name of

the species stand for that. But they, not having any idea of that real essence in substances, and their words signifying nothing but the ideas they have, that which is done by this attempt is only to put the name or sound in the place and stead of the thing having that real essence, without knowing what the real essence is, and this is that which men do when they speak of species of things, as supposing them made by nature, and distinguished by real essences.

50. *Which supposition is of no use.* For, let us consider, when we affirm that "all gold is fixed," either it means that fixedness is a part of the definition, i.e., part of the nominal essence the word gold stands for; and so this affirmation, "all gold is fixed," contains nothing but the signification of the term gold. Or else it means, that fixedness, not being a part of the definition of the gold, is a property of that substance itself: in which case it is plain that the word gold stands in the place of a substance, having the real essence of a species of things made by nature. In which way of substitution it has so confused and uncertain a signification, that, though this proposition — "gold is fixed" — be in that sense an affirmation of something real; yet it is a truth will always fail us in its particular application, and so is of no real use or certainty. For let it be ever so true, that all gold, i.e. all that has the real essence of gold, is fixed, what serves this for, whilst we know not, in this sense, *what is or is not gold?* For if we know not the real essence of gold, it is impossible we should know what parcel of matter has that essence, and so whether *it* be true gold or no.²⁸

51. *Conclusion.* To conclude: what liberty Adam had at first to make any complex ideas of *mixed modes* by no other pattern but by his own thoughts, the same have all men ever since had. And the same necessity of conforming his ideas of *substances* to things without him, as to archetypes made by nature, that Adam was under, if he would not wilfully impose upon himself, the same are all men ever since under too. The same liberty also that Adam had of affixing any new name to any idea, the same has any one still, (especially the beginners of languages, if we can imagine any such); but only with this difference, that, in places where men in society have already established a language amongst them, the significations of words are very warily and sparingly to be altered. Because men being furnished already with names for their ideas, and common use having appropriated known names to certain ideas, an affected misapplication of them cannot but be very ridiculous. He that hath new notions will perhaps venture sometimes on the coining of new terms to express them: but men think it a boldness, and it is uncertain whether common use will ever make them pass for current. But in communication with others, it is necessary that we conform the ideas we make the vulgar words of any language stand for to their

²⁸ Cf. ch. x. § 17.

known proper significations, (which I have explained at large already), or else to make known that new signification we apply them to.

Human Understanding, BK III, CH X, SECT 24 298b

24. *To do it with quickness.* Secondly, Men fail of conveying their thoughts with all the quickness and ease that may be, when they have complex ideas without having any distinct names for them. This is sometimes the fault of the language itself, which has not in it a sound yet applied to such a signification; and sometimes the fault of the man, who has not yet learned the name for that idea he would show another.

Human Understanding, BK III, CH X, SECT 27 298c-d

27. *When complex ideas are without names annexed to them.* Secondly, He that has complex ideas, without particular names for them, would be in no better case than a bookseller, who had in his warehouse volumes that lay there unbound, and without titles, which he could therefore make known to others only by showing the loose sheets, and communicate them only by tale. This man is hindered in his discourse, for want of words to communicate his complex ideas, which he is therefore forced to make known by an enumeration of the simple ones that compose them; and so is fain often to use twenty words, to express what another man signifies in one.

Human Understanding, BK III, CH X, SECT 31 299a

31. *Summary.* He that hath names without ideas, wants meaning in his words, and speaks only empty sounds. He that hath complex ideas without names for them, wants liberty and dispatch in his expressions, and is necessitated to use periphrases. He that uses his words loosely and unsteadily will either be not minded or not understood. He that applies his names to ideas different from their common use, wants propriety in his language, and speaks gibberish. And he that hath the ideas of substances disagreeing with the real existence of things, so far wants the materials of true knowledge in his understanding, and hath instead thereof chimeras.

Human Understanding, BK IV, CH XI, SECT 5 300d

5. *Has made men more conceited and obstinate.* This inconvenience, in an ill use of words, men suffer in their own private meditations: but much more manifest are the disorders which follow from it, in conversation, discourse, and arguings with others. For language being the great conduit, whereby men convey their discoveries, reasonings, and knowledge, from one to another, he that makes an ill use of it, though he does not corrupt the fountains of knowledge, which are in things themselves, yet he does, as

much as in him lies, break or stop the pipes whereby it is distributed to the public use and advantage of mankind. He that uses words without any clear and steady meaning, what does he but lead himself and others into errors? And he that designedly does it, ought to be looked on as an enemy to truth and knowledge. And yet who can wonder that all the sciences and parts of knowledge have been so overcharged with obscure and equivocal terms, and insignificant and doubtful expressions, capable to make the most attentive or quick-sighted very little, or not at all, the more knowing or orthodox: since subtlety, in those who make profession to teach or defend truth, hath passed so much for a virtue: a virtue, indeed, which, consisting for the most part in nothing but the fallacious and illusory use of obscure or deceitful terms, is only fit to make men more conceited in their ignorance, and more obstinate in their errors.

Human Understanding, BK IV, CH V, SECT 10 331a

10. *General propositions to be treated of more at large.* But because words are looked on as the great conduits of truth and knowledge, and that in conveying and receiving of truth, and commonly in reasoning about it, we make use of words and propositions, I shall more at large inquire wherein the certainty of real truths contained in propositions consists, and where it is to be had; and endeavour to show in what sort of universal propositions we are capable of being certain of their real truth or falsehood.

I shall begin with *general* propositions,²⁹ as those which most employ our thoughts, and exercise our contemplation. General truths are most looked after by the mind as those that most enlarge our knowledge; and by their comprehensiveness satisfying us at once of many particulars, enlarge our view, and shorten our way to knowledge.

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

4. *Σημειωτική.* Thirdly, the third branch may be called *Σημειωτική*, or the *doctrine of signs*; the most usual whereof being words, it is aptly enough termed also *Λογική*, *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:³⁰ therefore to communicate our thoughts to one another, as well

²⁹ Chh. vi, vii, viii.

³⁰ Cf. Bk. II. ch. x. §§ 4, 5, 8, 9.

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.³¹

35 BERKELEY: *Human Knowledge*, SECT 121 436d-437b

121. However, since there may be some who, deluded by the specious show of discovering abstracted verities, waste their time in arithmetical theorems and problems which have not any use, it will not be amiss if we more fully consider and expose the vanity of that pretence; and this will plainly appear by taking a view of Arithmetic in its infancy, and observing what it was that originally put men on the study of that science, and to what scope they directed it. It is natural to think that at first, men, for ease of memory and help of computation, made use of counters, or in writing of single strokes, points, or the like, each whereof was made to signify an unit, *i.e.*, some one thing of whatever kind they had occasion to reckon. Afterwards they found out the more compendious ways of making one character stand in place of several strokes or points. And, lastly, the notation of the Arabians or Indians came into use, wherein, by the repetition of a few characters or figures, and varying the signification of each figure according to the place it obtains, all numbers may be most aptly expressed; which seems to have been done in imitation of language, so that an exact analogy is observed betwixt the notation by figures and names, the nine simple figures answering the nine first numeral names and places in the former, corresponding to denominations in the latter. And agreeably to those conditions of the simple and local value of figures, were contrived methods of finding, from the given figures or marks of the parts, what figures and how placed are proper to denote the whole, or *vice versa*. And having found the sought figures, the same rule or analogy being observed throughout, it is easy to read them into words; and so the number becomes perfectly known. For then the number of any particular things is said to be known, when we know the name of figures (with their due arrangement) that according to the standing analogy belong to them. For, these signs being known, we can by the operations of arithmetic know the signs of any part of the particular sums signified by them; and, thus computing in signs (because of the connexion established betwixt them and the distinct multitudes of things whereof one

³¹ Cf. Bk. I. ch. iii. § 25. So Bacon, *Novum Organum*, I. 11-19.

is taken for an unit), we may be able rightly to sum up, divide, and proportion the things themselves that we intend to number.

36 SWIFT: *Gulliver*, PART III, 111a-b

I made my humblest acknowledgements to this illustrious person for his great communicativeness; and promised, if ever I had the good fortune to return to my native country, that I would do him justice, as the sole inventor of this wonderful machine; the form and contrivance of which I desired leave to delineate upon paper as in the figure here annexed. I told him, although it were the custom of our learned in Europe to steal inventions from each other, who had thereby at least this advantage, that it became a controversy which was the right owner; yet I would take such caution, that he should have the honour entire without a rival.

We next went to the school of languages, where three professors sat in consultation upon improving that of their own country.

The first project was to shorten discourse by cutting polysyllables into one, and leaving out verbs and participles, because in reality all things imaginable are but nouns.

The other, was a scheme for entirely abolishing all words whatsoever: and this was urged as a great advantage in point of health as well as brevity. For, it is plain, that every word we speak is in some degree a diminution of our lungs by corrosion; and consequently contributes to the shortening of our lives. An expedient was therefore offered, that since words are only names for *things*, it would be more convenient for all men to carry about them, such *things* as were necessary to express the particular business they are to discourse on. And this invention would certainly have taken place, to the great ease as well as health of the subject, if the women in conjunction with the vulgar and illiterate had not threatened to raise a rebellion, unless they might be allowed the liberty to speak with their tongues, after the manner of their forefathers: such constant irreconcilable enemies to science are the common people. However, many of the most learned and wise adhere to the new scheme of expressing themselves by *things*; which hath only this inconvenience attending it; that if a man's business be very great, and of various kinds, he must be obliged in proportion to carry a greater bundle of *things* upon his back, unless he can afford one or two strong servants to attend him. I have often beheld two of those sages almost sinking under the weight of their packs, like pedlars among us; who, when they met in the streets would lay down their loads, open their sacks, and hold conversation for an hour together; then put up their implements, help each other to resume their burthens, and take their leave.

But, for short conversations, a man may carry implements in his pockets and under his arms, enough to supply him, and in his house he cannot be at a loss; therefore the room where company meet who practise this art, is full of all things ready at hand, requisite to furnish matter for this kind of artificial converse.

Another great advantage proposed by this invention, was, that it would serve as an universal language to be understood in all civilised nations, whose goods and utensils are generally of the same kind, or nearly resembling, so that their uses might easily be comprehended. And thus, ambassadors would be qualified to treat with foreign princes or ministers of State, to whose tongues they were utter strangers.

38 ROUSSEAU: *Inequality*, 339d-342c; 349d-350a

Inequality, 339d-342c

Were we to suppose savage man as trained in the art of thinking as philosophers make him; were we, like them, to suppose him a very philosopher capable of investigating the sublimest truths, and of forming, by highly abstract chains of reasoning, maxims of reason and justice, deduced from the love of order in general, or the known will of his Creator; in a word, were we to suppose him as intelligent and enlightened, as he must have been, and is in fact found to have been, dull and stupid, what advantage would accrue to the species, from all such metaphysics, which could not be communicated by one to another, but must end with him who made them? What progress could be made by mankind, while dispersed in the woods among other animals? and how far could men improve or mutually enlighten one another, when, having no fixed habitation, and no need of one another's assistance, the same persons hardly met twice in their lives, and perhaps then, without knowing one another or speaking together?

Let it be considered how many ideas we owe to the use of speech; how far grammar exercises the understanding and facilitates its operations. Let us reflect on the inconceivable pains and the infinite space of time that the first invention of languages must have cost. To these reflections add what preceded, and then judge how many thousand ages must have elapsed in the successive development in the human mind of those operations of which it is capable.

I shall here take the liberty for a moment, of considering the difficulties of the origin of languages, on which subject I might content myself with a simple repetition of the Abbé Condillac's investigations, as they fully confirm my system, and perhaps even first suggested it. But it is plain, from the manner in which this philosopher solves the difficulties he himself raises, concerning the origin of arbitrary signs, that he assumes what I

question, viz., that a kind of society must already have existed among the first inventors of language. While I refer, therefore, to his observations on this head, I think it right to give my own, in order to exhibit the same difficulties in a light adapted to my subject. The first which presents itself is to conceive how language can have become necessary; for as there was no communication among men and no need for any, we can neither conceive the necessity of this invention, nor the possibility of it, if it was not somehow indispensable. I might affirm, with many others, that languages arose in the domestic intercourse between parents and their children. But this expedient would not obviate the difficulty, and would besides involve the blunder made by those who, in reasoning on the state of nature, always import into it ideas gathered in a state of society. Thus they constantly consider families as living together under one roof, and the individuals of each as observing among themselves a union as intimate and permanent as that which exists among us, where so many common interests unite them: whereas, in this primitive state, men had neither houses, nor huts, nor any kind of property whatever; every one lived where he could, seldom for more than a single night; the sexes united without design, as accident, opportunity or inclination brought them together, nor had they any great need of words to communicate their designs to each other; and they parted with the same indifference. The mother gave suck to her children at first for her own sake; and afterwards, when habit had made them dear, for theirs: but as soon as they were strong enough to go in search of their own food, they forsook her of their own accord; and, as they had hardly any other method of not losing one another than that of remaining continually within sight, they soon became quite incapable of recognising one another when they happened to meet again. It is farther to be observed that the child, having all his wants to explain, and of course more to say to his mother than the mother could have to say to him, must have borne the brunt of the task of invention, and the language he used would be of his own device, so that the number of languages would be equal to that of the individuals speaking them, and the variety would be increased by the vagabond and roving life they led, which would not give time for any idiom to become constant. For to say that the mother dictated to her child the words he was to use in asking her for one thing or another, is an explanation of how languages already formed are taught, but by no means explains how languages were originally formed.

We will suppose, however, that this first difficulty is obviated. Let us for a moment then take ourselves as being on this side of the vast space which must lie between a pure state of nature and that in which languages had become necessary, and, admitting their necessity, let us inquire how they could first be established. Here we have a new and worse difficulty to grapple with; for if men need speech to learn to think, they must have

stood in much greater need of the art of thinking, to be able to invent that of speaking. And though we might conceive how the articulate sounds of the voice came to be taken as the conventional interpreters of our ideas, it would still remain for us to inquire what could have been the interpreters of this convention for those ideas, which, answering to no sensible objects, could not be indicated either by gesture or voice; so that we can hardly form any tolerable conjectures about the origin of this art of communicating our thoughts and establishing a correspondence between minds: an art so sublime, that far distant as it is from its origin, philosophers still behold it at such an immeasurable distance from perfection, that there is none rash enough to affirm it will ever reach it, even though the revolutions time necessarily produces were suspended in its favour, though prejudice should be banished from our academies or condemned to silence, and those learned societies should devote themselves uninterruptedly for whole ages to this thorny question.

The first language of mankind, the most universal and vivid, in a word the only language man needed, before he had occasion to exert his eloquence to persuade assembled multitudes, was the simple cry of nature. But as this was excited only by a sort of instinct on urgent occasions, to implore assistance in case of danger, or relief in case of suffering, it could be of little use in the ordinary course of life, in which more moderate feelings prevail. When the ideas of men began to expand and multiply, and closer communication took place among them, they strove to invent more numerous signs and a more copious language. They multiplied the inflections of the voice, and added gestures, which are in their own nature more expressive, and depend less for their meaning on a prior determination. Visible and movable objects were therefore expressed by gestures, and audible ones by imitative sounds: but, as hardly anything can be indicated by gestures, except objects actually present or easily described, and visible actions; as they are not universally useful — for darkness or the interposition of a material object destroys their efficacy — and as besides they rather request than secure our attention; men at length bethought themselves of substituting for them the articulate sounds of the voice, which, without bearing the same relation to any particular ideas, are better calculated to express them all, as conventional signs. Such an institution could only be made by common consent, and must have been effected in a manner not very easy for men whose gross organs had not been accustomed to any such exercise. It is also in itself still more difficult to conceive, since such a common agreement must have had motives, and speech seems to have been highly necessary to establish the use of it. It is reasonable to suppose that the words first made use of by mankind had a much more extensive signification than those used in languages already formed, and that ignorant as they were of the division of discourse

into its constituent parts, they at first gave every single word the sense of a whole proposition. When they began to distinguish subject and attribute, and noun and verb, which was itself no common effort of genius, substantives were first only so many proper names; the present infinitive was the only tense of verbs; and the very idea of adjectives must have been developed with great difficulty; for every adjective is an abstract idea, and abstractions are painful and unnatural operations.

Every object at first received a particular name without regard to genus or species, which these primitive originators were not in a position to distinguish; every individual presented itself to their minds in isolation, as they are in the picture of nature. If one oak was called A, another was called B; for the primitive idea of two things is that they are not the same, and it often takes a long time for what they have in common to be seen: so that, the narrower the limits of their knowledge of things, the more copious their dictionary must have been. The difficulty of using such a vocabulary could not be easily removed; for, to arrange beings under common and generic denominations, it became necessary to know their distinguishing properties: the need arose for observation and definition, that is to say, for natural history and metaphysics of a far more developed kind than men can at that time have possessed.

Add to this, that general ideas cannot be introduced into the mind without the assistance of words, nor can the understanding seize them except by means of propositions. This is one of the reasons why animals cannot form such ideas, or ever acquire that capacity for self-improvement which depends on them. When a monkey goes from one nut to another, are we to conceive that he entertains any general idea of that kind of fruit, and compares its archetype with the two individual nuts? Assuredly he does not; but the sight of one of these nuts recalls to his memory the sensations which he received from the other, and his eyes, being modified after a certain manner, give information to the palate of the modification it is about to receive. Every general idea is purely intellectual; if the imagination meddles with it ever so little, the idea immediately becomes particular. If you endeavour to trace in your mind the image of a tree in general, you never attain to your end. In spite of all you can do, you will have to see it as great or little, bare or leafy, light or dark, and were you capable of seeing nothing in it but what is common to all trees, it would no longer be like a tree at all. Purely abstract beings are perceivable in the same manner, or are only conceivable by the help of language. The definition of a triangle alone gives you a true idea of it: the moment you imagine a triangle in your mind, it is some particular triangle and not another, and you cannot avoid giving it sensible lines and a coloured area. We must then make use of propositions and of language in order to form general ideas. For no sooner does the imagination cease to operate than the understanding proceeds

only by the help of words. If then the first inventors of speech could give names only to ideas they already had, it follows that the first substantives could be nothing more than proper names.

But when our new grammarians, by means of which I have no conception, began to extend their ideas and generalise their terms, the ignorance of the inventors must have confined this method within very narrow limits; and, as they had at first gone too far in multiplying the names of individuals, from ignorance of their genus and species, they made afterwards too few of these, from not having considered beings in all their specific differences. It would indeed have needed more knowledge and experience than they could have, and more pains and inquiry than they would have bestowed, to carry these distinctions to their proper length. If, even to-day, we are continually discovering new species, which have hitherto escaped observation, let us reflect how many of them must have escaped men who judged things merely from their first appearance! It is superfluous to add that the primitive classes and the most general notions must necessarily have escaped their notice also. How, for instance, could they have understood or thought of the words matter, spirit, substance, mode, figure, motion, when even our philosophers, who have so long been making use of them, have themselves the greatest difficulty in understanding them; and when, the ideas attached to them being purely metaphysical, there are no models of them to be found in nature?

But I stop at this point, and ask my judges to suspend their reading a while, to consider, after the invention of physical substantives, which is the easiest part of language to invent, that there is still a great way to go, before the thoughts of men will have found perfect expression and constant form, such as would answer the purposes of public speaking, and produce their effect on society. I beg of them to consider how much time must have been spent, and how much knowledge needed, to find out numbers, abstract terms, aorists and all the tenses of verbs, particles, syntax, the method of connecting propositions, the forms of reasoning, and all the logic of speech. For myself, I am so aghast at the increasing difficulties which present themselves, and so well convinced of the almost demonstrable impossibility that languages should owe their original institution to merely human means, that I leave, to any one who will undertake it, the discussion of the difficult problem, which was most necessary, the existence of society to the invention of language, or the invention of language to the establishment of society. But be the origin of language and society what they may, it may be at least inferred, from the little care which nature has taken to unite mankind by mutual wants, and to facilitate the use of speech, that she has contributed little to make them sociable, and has put little of her own into all they have done to create such bonds of union.

Inequality, 349d-350a

In this manner, men may have insensibly acquired some gross ideas of mutual undertakings, and of the advantages of fulfilling them: that is, just so far as their present and apparent interest was concerned: for they were perfect strangers to foresight, and were so far from troubling themselves about the distant future, that they hardly thought of the morrow. If a deer was to be taken, every one saw that, in order to succeed, he must abide faithfully by his post: but if a hare happened to come within the reach of any one of them, it is not to be doubted that he pursued it without scruple, and, having seized his prey, cared very little, if by so doing he caused his companions to miss theirs.

It is easy to understand that such intercourse would not require a language much more refined than that of rooks or monkeys, who associate together for much the same purpose. Inarticulate cries, plenty of gestures and some imitative sounds, must have been for a long time the universal language; and by the addition, in every country, of some conventional articulate sounds (of which, as I have already intimated, the first institution is not too easy to explain) particular languages were produced; but these were rude and imperfect, and nearly such as are now to be found among some savage nations.

Hurried on by the rapidity of time, by the abundance of things I have to say, and by the almost insensible progress of things in their beginnings, I pass over in an instant a multitude of ages; for the slower the events were in their succession, the more rapidly may they be described.

40 GIBBON: *Decline and Fall*, 675d [n 83]; 756a [n 43]

Decline and Fall, 675d [n 83]

83. The progress of religion is well known. The use of letters was introduced among the savages of Europe about fifteen hundred years before Christ; and the Europeans carried them to America, about fifteen centuries after the Christian era. But in a period of three thousand years, the Phoenician alphabet received considerable alterations, as it passed through the hands of the Greeks and Romans.

Decline and Fall, 756a [n 43]

43. When Germanicus visited the ancient monuments of Thebes, the eldest of the priests explained to him the meaning of these hieroglyphics. Tacit, Annal ii. c. 60. But it seems probable that before the useful invention of an alphabet these natural or arbitrary signs were the common characters of the Egyptian nation. See Warburton's Divine Legation of Moses, vol. iii. p. 69-243.

45 LAVOISIER: *Elements of Chemistry*, PREF, 1a-c

When I began the following work, my only object was to extend and explain more fully the Memoir which I read at the public meeting of the Academy of Sciences in the month of April 1787, on the necessity of reforming and completing the nomenclature of chemistry. While engaged in this employment, I perceived, better than I had ever done before, the justice of the following maxims of the Abbé de Condillac, in his *Logic*, and some other of his works.

“We think only through the medium of words. — Languages are true analytical methods. — Algebra, which is adapted to its purpose in every species of expression, in the most simple, most exact, and best manner possible, is at the same time a language and an analytical method. — The art of reasoning is nothing more than a language well arranged.”

Thus, while I thought myself employed only in forming a nomenclature, and while I proposed to myself nothing more than to improve the chemical language, my work transformed itself by degrees, without my being able to prevent it, into a treatise upon the elements of chemistry.

The impossibility of separating the nomenclature of a science from the science itself, is owing to this, that every branch of physical science must consist of three things: the series of facts which are the objects of the science, the ideas which represent these facts, and the words by which these ideas are expressed. Like three impressions of the same seal, the word ought to produce the idea, and the idea to be a picture of the fact. And, as ideas are preserved and communicated by means of words, it necessarily follows that we cannot improve the language of any science without at the same time improving the science itself; neither can we, on the other hand, improve a science, without improving the language or nomenclature which belongs to it. However certain the facts of any science may be and however just the ideas we may have formed of these facts, we can only communicate false impressions to others while we want words by which these may be properly expressed.

To those who will consider it with attention, the first part of this treatise will afford frequent proofs of the truth of the above observations. But as, in the conduct of my work, I have been obliged to observe an order of arrangement essentially differing from what has been adopted in any other chemical work yet published, it is proper that I should explain the motives which have led me to do so.

It is a maxim universally admitted in geometry, and indeed in every branch of knowledge, that, in the progress of investigation, we should proceed from known facts to what is unknown. In early infancy, our ideas spring from our wants; the sensation of want excites the idea of the object by which it is to be gratified. In this manner, from a series of sensations, observations, and

analyses, a successive train of ideas arises, so linked together that an attentive observer may trace back to a certain point the order and connection of the whole sum of human knowledge.

46 HEGEL: *Philosophy of Right*, PART I, par 78 32d-33a / *Philosophy of History*, PART I, 218a-c

Philosophy of Right, PART I, par 78 32d-33a

78. The distinction between property and possession, the substantive and external aspects of ownership (see Paragraph 45), appears in the sphere of contract as the distinction between a common will and its actualisation, or between a covenant and its performance. Once made, a covenant taken by itself in distinction from its performance is something held before the mind, something therefore to which a particular determinate existence must be given in accordance with the appropriate mode of giving determinate existence to ideas by symbolising them.³² This is done, therefore, by expressing the stipulation in formalities such as gestures and other symbolic actions, particularly by declaring it with precision in language, the most worthy medium for the expression of our mental ideas. The stipulation accordingly is the form given to the content of a contract, i.e. to what is agreed in it, and thereby this content, previously only an idea, attains its determinate existence. But the idea which we have of the content is itself only a form which the content takes; to have an idea of the content does not mean that the content is still something subjective, a desire or a wish for so and so. On the contrary, the content is the will's ultimate decision on such subjective wishes. [A.]

Philosophy of History, PART I, 218a-c

The nature of their written language is at the outset a great hindrance to the development of the sciences. Rather, conversely, because a true scientific interest does not exist, the Chinese have acquired no better instrument for representing and imparting thought. They have, as is well known, beside a spoken language, a *written language*; which does not express, as ours does, individual sounds – does not present the spoken words to the eye, but represents the ideas themselves by signs. This appears at first sight a great advantage, and has gained the suffrages of many great men – among others, of Leibnitz. In reality, it is anything but such. For if we consider in the first place, the effect of such a mode of writing on the spoken language, we shall find this among the Chinese very imperfect, on account of that separation. For our spoken language is matured to distinctness chiefly through the necessity of finding signs for

³² *Enc.* [1st edn.] §§ 379 ff. [3rd edn. §§ 458 ff.].

each single sound, which latter, by reading, we learn to express distinctly. The Chinese, to whom such a means of orthoepic development is wanting, do not mature the modifications of sounds in their language to distinct articulations capable of being represented by letters and syllables. Their spoken language consists of an inconsiderable number of monosyllabic words, which are used with more than one signification. The sole methods of denoting distinctions of meaning are the connection, the accent, and the pronunciation – quicker or slower, softer or louder. The ears of the Chinese have become very sensible to such distinctions. Thus I find that the word *po* has eleven different meanings according to the tone, denoting: glass, to boil, to winnow wheat, to cleave asunder, to water, to prepare, an old woman, a slave, a liberal man, a wise person, a little.

As to their written language, I will specify only the obstacles which it presents to the advance of the sciences. Our written language is very simple for a learner, as we analyze our spoken language into about twenty-five articulations, by which analysis, speech is rendered definite, the multitude of possible sounds is limited, and obscure intermediate sounds are banished: we have to learn only these signs and their combinations. Instead of twenty-five signs of this sort, the Chinese have many thousands to learn. The number necessary for use is reckoned at 9,353, or even 10,516, if we add those recently introduced; and the number of characters generally, for ideas and their combinations as they are presented in books, amounts to from 80,000 to 90,000. As to the sciences themselves, *history* among the Chinese comprehends the bare and definite facts, without any opinion or reasoning upon them. In the same way their *jurisprudence* gives only fixed laws, and their *ethics* only determinate duties, without raising the question of a subjective foundation for them. The Chinese have, however, in addition to other sciences, a *philosophy*, whose elementary principles are of great antiquity, since the *Y-King*, the *Book of Fates*, treats of origination and destruction. In this book are found the purely abstract ideas of unity and duality; the philosophy of the Chinese appears therefore to proceed from the same fundamental ideas as that of Pythagoras.³³ The fundamental principle recognized is *reason* – *tao*; that essence lying at the basis of the whole, which effects everything. To become acquainted with its forms is regarded among the Chinese also as the highest science; yet this has no connection with the educational pursuits which more nearly concern the state. The works of Lao-tse, and especially his work *Tao-te-ching*, are celebrated. Confucius visited this philosopher in the sixth century before Christ, to testify his reverence for him.

³³ Vide Hegel's *Vorlesungen über die Geschichte der Philosophie*, vol. i. p. 138, etc.

49 DARWIN: *Descent of Man*, 298d-299b; 329a-b; 592a

Descent of Man, 298d-299b

With respect to the origin of articulate language, after having read on the one side the highly interesting works of Mr. Hensleigh Wedgwood, the Rev. F. Farrar, and Prof. Schleicher,³⁴ and the celebrated lectures of Prof. Max Müller on the other side, I cannot doubt that language owes its origin to the imitation and modification of various natural sounds, the voices of other animals, and man's own instinctive cries, aided by signs and gestures. When we treat of sexual selection we shall see that primeval man, or rather some early progenitor of man, probably first used his voice in producing true musical cadences, that is in singing, as do some of the gibbon-apes at the present day; and we may conclude from a widely-spread analogy, that this power would have been especially exerted during the courtship of the sexes, — would have expressed various emotions, such as love, jealousy, triumph, — and would have served as a challenge to rivals. It is, therefore, probable that the imitation of musical cries by articulate sounds may have given rise to words expressive of various complex emotions. The strong tendency in our nearest allies, the monkeys, in microcephalous idiots,³⁵ and in the barbarous races of mankind, to imitate whatever they hear deserves notice, as bearing on the subject of imitation. Since monkeys certainly understand much that is said to them by man, and when wild, utter signal-cries of danger to their fellows;³⁶ and since fowls give distinct warnings for danger on the ground, or in the sky from hawks (both, as well as a third cry, intelligible to dogs),³⁷ may not some unusually wise ape-like animal have imitated the growl of a beast of prey, and thus told his fellow-monkeys the nature of the expected danger? This would have been a first step in the formation of a language.

As the voice was used more and more, the vocal organs would have been strengthened and perfected through the principle of the inherited effects of use; and this would have reacted on the power of speech. But the relation between the continued use of language and the development of the brain, has no doubt been far more important. The mental powers in some early progenitor of man must have been more highly developed than in any

³⁴ *On the Origin of Language*, by H. Wedgwood, 1866. *Chapters on Language*, by the Rev. F.W. Farrar, 1865. These works are most interesting. See also *De la Phys. et de Parole*, par Albert Lemoine, 1865, p. 190. The work on this subject, by the late Prof. Aug. Schleicher, has been translated by Dr. Bickers into English, under the title of *Darwinism tested by the Science of Language*, 1869.

³⁵ Vogt, *Mémoire sur les Microcéphales*, 1867, p. 169. With respect to savages, I have given some facts in my *Journal of Researches*, etc., 1845, p. 206.

³⁶ See clear evidence on this head in the two works so often quoted, by Brehm and Rengger.

³⁷ Houzeau gives a very curious account of his observations on this subject in his *Facultés Mentales des Animaux*, tom. ii. p. 348.

existing ape, before even the most imperfect form of speech could have come into use; but we may confidently believe that the continued use and advancement of this power would have reacted on the mind itself, by enabling and encouraging it to carry on long trains of thought. A complex train of thought can no more be carried on without the aid of words, whether spoken or silent, than a long calculation without the use of figures or algebra. It appears, also, that even an ordinary train of thought almost requires, or is greatly facilitated by some form of language, for the dumb, deaf, and blind girl, Laura Bridgman, was observed to use her fingers whilst dreaming.³⁸

Descent of Man, 329a-b

The evidence that all civilised nations are the descendants of barbarians, consists, on the one side, of clear traces of their former low condition in still-existing customs, beliefs, language, etc.; and on the other side, of proofs that savages are independently able to raise themselves a few steps in the scale of civilisation, and have actually thus risen. The evidence on the first head is extremely curious, but cannot be here given: I refer to such cases as that of the art of enumeration, which, as Mr. Tylor clearly shews by reference to the words still used in some places, originated in counting the fingers, first of one hand and then of the other, and lastly of the toes. We have traces of this in our own decimal system, and in the Roman numerals, where, after the V, which is supposed to be an abbreviated picture of a human hand, we pass on to VI, etc., when the other hand no doubt was used. So again, “When we speak of three-score and ten, we are counting by the vigesimal system, each score thus ideally made, standing for 20 – for ‘one man’ as a Mexican or Carib would put it.” According to a large and increasing school of philologists, every language bears the marks of its slow and gradual evolution. So it is with the art of writing, for letters are rudiments of pictorial representations. It is hardly possible to read Mr. M’Lennan’s work and not admit that almost all civilised nations still retain traces of such rude habits as the forcible capture of wives.

Descent of Man, 592a

A great stride in the development of the intellect will have followed, as soon as the half-art and half-instinct of language came into use; for the continued use of language will have reacted on the brain and produced an inherited effect; and this again will have reacted on the improvement of language. As Mr. Chancey Wright³⁹ has well remarked, the largeness of the brain in man relatively to his body, compared with the lower animals, may

³⁸ See remarks on this head by Dr. Maudsley, *The Physiology and Pathology of Mind*, 2nd ed., 1868, p. 199.

³⁹ “On the Limits of Natural Selection” in the *North American Review*, Oct., 1870, p. 295.

be attributed in chief part to the early use of some simple form of language, — that wonderful engine which affixes signs to all sorts of objects and qualities, and excites trains of thought which would never arise from the mere impression of the senses, or if they did arise could not be followed out. The higher intellectual powers of man, such as those of ratiocination, abstraction, self-consciousness, etc., probably follow from the continued improvement and exercise of the other mental faculties.

53 JAMES: *Psychology*, 650b; 683b-685a

Psychology, 650b

To many persons among us, photographs of lost ones seem to be fetishes. They, it is true, resemble; but the fact that the mere materiality of the reminder is almost as important as its resemblance is shown by the popularity a, hundred years ago of the black taffeta “silhouettes” which are still found among family relics, and of one of which Fichte could write to his affianced: “*Die Farbe fehlt, das Auge felddt, es fehlt der himmlische Ausdruck deiner lieblichen Züge*” — and yet go on worshipping it all the same. The opinion so stoutly professed by many, that language is essential to thought, seems to have this much of truth in it, that all our inward images tend invincibly to attach themselves to something sensible, so as to gain in corporeity and life. Words serve this purpose, gestures serve it, stones, straws, chalk-marks, anything will do. As soon as anyone of these things stands for the idea, the latter seems to be more real. Some persons, the present writer among the number, can hardly lecture without a black-board: the abstract conceptions must be symbolized by letters, squares or circles, and the relations between them by lines. All this symbolism, linguistic, graphic, and dramatic, has other uses too, for it abridges thought and fixes terms. But one of its uses is surely to rouse the believing reaction and give to the ideas a more living reality. As, when we are told a story, and shown the very knife that did the murder, the very ring whose hiding-place the clairvoyant revealed, the whole thing passes from fairy-land to mother-earth, so here we believe all the more, if only we see that “the bricks are alive to tell the tale.”

Psychology, 683b-685a

Other classical *differentiæ* of man besides that of being the only reasoning animal, also seem consequences of his unrivalled powers of similar association. He has, e.g., been called “the laughing animal.” But humor has often been defined as the recognition of identities in things different. When the man in *Coriolanus* says of that hero that “there is no more mercy in him than there is milk in a male tiger,” both the invention of the phrase and its

enjoyment by the hearer depend on a peculiarly perplexing power to associate ideas by similarity.

Man is known again as “the talking animal”; and language is assuredly a capital distinction between man and brute. But it may readily be shown how this distinction merely shows from those we have pointed out, easy dissociation of a representation into its ingredients, and association by similarity.

Language is a system of *signs*, different from the things signified, but able to suggest them.

No doubt brutes have a number of such signs. When a dog yelps in front of a door, and his master, understanding his desire, opens it, the dog may, after a certain number of repetitions, get to repeat in cold blood a yelp which was at first the involuntary interjectional expression of strong emotion. The same dog may be taught to “beg” for food, and afterwards come to do so deliberately when hungry. The dog also learns to understand the signs of men, and the word “rat” uttered to a terrier suggests exciting thoughts of the rat-hunt. If the dog had the varied impulse to vocal utterance which some other animals have, he would probably repeat the word “rat” whenever he spontaneously happened to think of a rat-hunt — he no doubt does have it as an auditory image, just as a parrot calls out different words spontaneously from its repertory, and having learned the name of a given dog will utter it on the sight of a different dog. In each of these separate cases the particular sign *may* be consciously noticed by the animal, as distinct from the particular thing signified, and will thus, so far as it goes, be a true manifestation of language. But when we come to man we find a great difference. *He has a deliberate intention to apply a sign to everything.* The linguistic impulse is with him generalized and systematic. For things hitherto unnoticed or unfelt, he *desires* a sign before he has one. Even though the dog should possess his “yelp” for this thing, his “beg” for that, and his auditory image “rat” for a third thing, the matter with him rests there. If a fourth thing interests him for which no sign happens already to have been learned, he remains tranquilly without it and goes no further. But the man *postulates* it, its absence irritates him, and he ends by inventing it. *This GENERAL PURPOSE constitutes, I take it, the peculiarity of human speech, and explains its prodigious development.*

How, then, does the general purpose arise? It arises as soon as the notion of a *sign as such*, apart from any particular import, is born; and this notion is born by dissociation from the outstanding portions of a number of concrete cases of signification. The “yelp,” the “beg,” the “rat,” differ as to their several imports and natures. They agree only in so far as they have the same *use* — *to be signs*, to stand for something more important than themselves. The dog whom this similarity could strike would have grasped the sign *per se* as such, and would probably thereupon become a general

sign-maker, or speaker in the human sense. But how can the similarity strike him? Not without the juxtaposition of the similars (in virtue of the law we have laid down [p. 330], that in order to be segregated an experience must be repeated with varying concomitants) — not unless the “yelp” of the dog at the moment it occurs *recalls* to him his “beg,” by the delicate bond of their subtle similarity of use — not till then can this thought hash through his mind: “Why, yelp and beg, in spite of all their unlikeness, are yet alike in this: that they are actions, signs, which lead to important boons. Other boons, *any* boons, may then be got by other signs!” This reflection made, the gulf is passed. Animals probably never make it, because the bond of similarity is not delicate enough. Each sign is drowned in *its* import, and never awakens other signs and other imports in juxtaposition. The rat-hunt idea is too absorbingly interesting in itself to be interrupted by anything so uncontiguous to it as the idea of the “beg for food,” or of “the door-open yelp,” nor in their turn do these awaken the rat-hunt idea.

In the human child, however, these ruptures of contiguous association are very soon made; far off cases of sign-using arise when we make a sign now; and soon language is launched. The child in each case makes the discovery for himself. No one can help him except by furnishing him with the conditions. But as he is constituted, the conditions will sooner or later shoot together into the result.⁴⁰

The exceedingly interesting account which Dr. Howe gives of the education of his various blind-deaf mutes illustrates this point admirably. He began to teach Laura Bridgman by gumming raised letters on various familiar articles. The child was taught by mere contiguity to pick out a certain number of

⁴⁰ There are two other conditions of language in the human being, additional to association by similarity that assist its action, or rather pave the way for it. These are: first, the great natural loquacity; and, second, the great imitativeness of man. The first produces the original reflex interactional sign; the second (as Bleek has well shown) fixes it, stamps it, attends by multiplying the number of determinate specific signs which are requisite preliminary to the general conscious purpose of sign-making, which I have called the characteristic human element in language. The way in which imitativeness fixes the meaning of signs is this: When a primeval man has a given emotion, he utters his natural interjection; or when (to avoid supposing that the reflex sounds are exceedingly determinate by nature) a group of such men experience a common emotion, and one takes the lead in the cry, the others cry like him from sympathy or imitativeness. Now, let one of the group hear another, who is in presence of the experience, utter the cry; he, even without the experience, will repeat the cry from pure imitativeness. But, as he repeats the sign, he will be reminded by it of his own former experience. Thus, first, he has the sign with the emotion; then, without it; then, with it again. It is : “dissociated by change of concomitants”; he feels it as a separate entity and yet as having a connection with the emotion. Immediately it becomes possible for him to couple it deliberately with the emotion, in cases where the latter would either have provoked no interjectional cry or not the same one. In a word, his mental procedure tends to *fix* this cry on *that* emotion; and when this occurs, in many instances, he is provided with a stock of signs, like the yelp, beg, rat of the dog, each of which suggests a determinate image. On this stock, then, similarity works in the way above explained.

particular articles when made to feel the letters. But this was merely a collection of particular signs, out of the mass of which the general purpose of *signification* had not yet been extracted by the child's mind. Dr. Howe compares his situation at this moment to that of one lowering a line to the bottom of the deep sea in which Laura's soul lay, and waiting until she should spontaneously take hold of it and be raised into the light. The moment came, "accompanied by a radiant hash of intelligence and glow of joy"; she seemed suddenly to become aware of the general purpose imbedded in the different details of all these signs, and from that moment her education went on with extreme rapidity.

54 FREUD: *General Introduction*, 516b-c

Obviously this achievement is by no means an easy one. In order to get some idea of its difficulty, imagine that you had undertaken to replace a political leading article in a newspaper by a series of illustrations; you would have to abandon alphabetic characters in favour of hieroglyphics. The people and concrete objects mentioned in the article could be easily represented, perhaps even more satisfactorily, in pictorial form; but you would expect to meet with difficulties when you came to the portrayal of all the abstract words and all those parts of speech which indicate relations between the various thoughts, e.g., particles, conjunctions, and so forth. With the abstract words you would employ all manner of devices: for instance, you would try to render the text of the article into other words, more unfamiliar perhaps, but made up of parts more concrete and therefore more capable of such representation. This will remind you of the fact that most abstract words were originally concrete, their original significance having faded; and therefore you will fall back on the original concrete meaning of these words wherever possible. So you will be glad that you can represent the *possessing* of an object as a literal, physical *sitting upon* it (possess = potis+sedeo). This is just how the dream-work proceeds. In such circumstances you can hardly demand great accuracy of representation, neither will you quarrel with the dream-work for replacing an element which is difficult to reduce to pictorial form, such as the idea of breaking marriage vows, by some other kind of breaking, e.g., that of an arm or leg.⁴¹ In this way you will to some extent succeed in overcoming the awkwardness of rendering alphabetic characters into hieroglyphs. When you come to represent those parts of speech which indicate thought-relations, e.g., *because*, *therefore*, *but*, and so on, you have no such means as those described to assist you; so that these parts of the text must be lost, so far as your translation into pictorial form is concerned.

⁴¹ Whilst correcting these pages, my eye happened to fall upon a newspaper paragraph which I reproduce here as affording unexpected confirmation of the above words.