

LETTER 32 (OP)

B. D. S. TO THE MOST NOBLE AND LEARNED GENTLEMAN,
HENRY OLDENBURG

Reply to the Preceding

15 Most Noble Sir,

I am most grateful both to you and to the very Noble Mr. Boyle for your kind encouragement of my philosophizing. Indeed, I proceed as well as I can, considering the slenderness of my ability, never doubting, in the meantime, your assistance and good will.

20 When you ask me what I think about the question concerning *our knowledge of how each part of Nature agrees with its whole and how*
[IV/170a] *it coheres with the others*, I think you are asking for the reasons by which we are persuaded that each part of Nature agrees with its whole and coheres with the others. For I already said in my preceding
5 Letter that I don't know [A: absolutely] how they really cohere and how each part agrees with its whole. To know that would require knowing the whole of Nature and all of its parts. So I shall try to show [A: as briefly as I can] the reason which compels me to affirm this. But first I should like to warn that I attribute to Nature nei-
10 ther beauty, nor ugliness, neither order nor confusion. For only in relation to our imagination can things be called beautiful or ugly, orderly or confused.

By the coherence of parts, then, I understand nothing but that the laws *or* the nature of the one part adapts itself to the laws *or* the nature of the other part so that they are opposed to each other as little as
15 possible. Concerning whole and parts, I consider things as parts of some whole to the extent that the nature of the one adapts itself to that of the other so that they [A: all] agree with one another as far as possible. But insofar as they disagree with one another, to that extent
[IV/171a] each forms in our Mind an idea distinct from the others, and therefore it is considered as a whole and not as a part.

For example, when the motions of the particles of lymph, chyle, etc., so adapt themselves to one another, in relation to their size and shape,
5 that they completely agree with one another, and they all constitute one fluid together, to that extent only the chyle, lymph, etc., are considered as parts of the blood. But insofar as we conceive the particles of lymph, by reason of their shape and motion, to differ from the particles of chyle, to that extent we consider them as a whole and not as a part.

Let us feign³⁵ now, if you please, that there is a little worm living
 10 in the blood which is capable of distinguishing by sight the particles
 of the blood, of lymph, [A: of chyle], etc., and capable of observing by
 reason how each particle, when it encounters another, either bounces
 back, or communicates a part of its motion, etc. Indeed, it would live
 in this blood as we do in this part of the universe, and would consider
 15 each particle of the blood as a whole, not as a part. It could not know
 how all the parts of the blood are regulated by the universal nature
 of the blood, and compelled to adapt themselves to one another, as
 the universal nature of the blood requires, so that they agree with one
 another in a definite way.

[IV/172a] For if we should feign that there are no causes outside the blood
 which would communicate new motions to the blood, and no space
 outside the blood, nor any other bodies to which the particles of blood
 could transfer their motion, it is certain that the blood would always
 5 remain in the same state, and its particles would undergo no variations
 other than those which can be conceived from the given relation of the
 motion of the blood to the lymph, chyle, etc.³⁶ Thus the blood would
 always have to be considered as a whole and not as a part. But because
 there are a great many other causes which regulate the laws of the nature
 of the blood in a definite way,³⁷ and which in turn are regulated by the
 10 blood, the result is that other motions and other variations arise in [A:
 the particles of] the blood which follow not simply from the relation
 of the motion of its parts to one another, but from the relation of the
 motion of the blood [A: as a whole] and of its external causes to one
 another. In this way the blood has the nature of a part and not of a
 whole. This is what I say concerning whole and part.

15 Now all bodies in nature can and must be conceived as we have
 here conceived the blood, for all bodies are surrounded by others, and
 are determined by one another to existing and producing an effect in
 [IV/173a] a fixed and determinate way, the same ratio of motion to rest always
 being preserved in all of them at once, [that is, in the whole universe].³⁸
 From this it follows that every body, insofar as it exists modified in a
 definite way, must be considered as a part of the whole universe, must
 agree with its whole and must cohere with the remaining bodies. And
 5 since the nature of the universe is not limited, as the nature of the

35. OP: *fingamus*. A: *conciplamus*, let us conceive. But when *fingamus* occurs below in the OP (at I.18), A also reads: *fingamus*.

36. A: than those which can follow from the nature of the blood alone, i.e., from the relation of the motion of the lymph, chyle, etc., to one another.

37. A: by which the whole nature of the blood is regulated in a definite way.

38. The bracketed phrase, not present in A, is added in the OP.

blood is, but is absolutely infinite, [its parts are regulated in infinite ways by this nature of the infinite power, and compelled to undergo infinitely many variations].³⁹

But in relation to substance I conceive each part to have a closer union with its whole. For as I tried to demonstrate previously in my
 10 first Letter (which I wrote to you while I was still living in Rijnsburg), since it is of the nature of substance to be infinite, it follows that each part pertains to the nature of corporeal substance, and can neither be nor be conceived without it.⁴⁰

15 You see, therefore, how and why I think that the human Body is a part of Nature.⁴¹ But as far as the human Mind is concerned, I think it is a part of Nature⁴² too. For I maintain that there is also in nature an infinite power of thinking, which, insofar as it is infinite, contains
 [IV/174a] in itself objectively the whole of Nature, and whose thoughts proceed in the same way as Nature, its object, does. Next, I maintain that the human Mind is this same power, not insofar as it is infinite and perceives
 5 the whole of Nature, but insofar as it is finite and perceives only the human body. For this reason I maintain that the human Mind is a part of a certain infinite intellect.

But it would take too long to explain accurately and demonstrate here all these things, along with those connected with them. And I do not think you expect this of me at present. Indeed, I wonder whether
 10 I have sufficiently grasped your intention, and have not answered a different question than the one you were asking. Please let me know.

As for what you write next—that I hinted that Descartes' Rules of motion are almost all false—if I remember rightly, I said that Mr. Huygens thinks this. I did not affirm that any of the Rules was false except
 15 the sixth.⁴³ And about that, I said I think Mr. Huygens is also wrong. On that occasion I asked you to communicate to me the experiment you have tried according to this hypothesis in your Royal Society. But since you say nothing about this, I infer that you are not permitted to reply.

[IV/175a] Huygens has been, and still is, completely occupied with polishing lenses. To this end he has constructed a rather elegant instrument on which he can also turn the lenses. But what progress he has made with

39. For the bracketed phrase A has: the variations of its parts which can follow from this infinite power must be infinite.

40. A: For since it is of the nature of substance to be infinite (as I tried to demonstrate previously, when I was still living in Rijnsburg), it follows from this that each part of the whole corporeal substance pertains to the whole substance, and can neither be nor be conceived without the rest of the substance.

41. A: a part of the universe.

42. A: a part of the universe.

43. Cf. Letter 30, fragment 1.

this I still do not know. Nor, to confess the truth, do I greatly desire to know.⁴⁴ For experience has taught me sufficiently that spherical lenses are more safely and better polished with a free hand than with
 5 any sort of instrument. Concerning the success of his pendulums and the timing of his move to France, I cannot yet write anything certain.

[IV/175b] [A: The Bishop of Munster, having foolishly gone into Frisia, as Aesop's
 15 goat went into the well,⁴⁵ has not been able to accomplish anything. Indeed, unless the winter begins very early, he will not be able to leave Frisia without great losses. There is no doubt that it was only because of the urging of some traitor that he dared to undertake this action. But all these things are too old to be written as news. And in the last week or two, nothing new has happened which is worth writing about.

20 There appears to be no hope of a peace with the English. Nevertheless, there was a rumor recently because of some conjecture about a Dutch envoy who was sent to France, and also because the people of Overijssel, who are trying with all their might to bring in the prince of Orange, had dreamed up a way to do this: they would send the prince to England as a mediator. (Many think this is more to spite the Hol-
 25 landers than for their own advantage.) But the reality is quite different. For the moment the Hollanders do not even dream of peace—unless it should turn out that they can buy peace with money.

There is still doubt about the plans of the Swede. Most think that
 30 his objective is Mainz; some think the Hollanders. But these are only conjectures.

I wrote this letter last week, but I could not send it because the weather prevented me from going to The Hague. That is the disadvantage of living in a village. Rarely do I receive a letter without delay, for unless
 35 by some chance there is an opportunity to send it to me immediately, a week or two passes before I receive it. And it is not unusual for some
 [IV/176] difficulty to arise when I want to send a letter. So when you see that I do not reply to you as promptly as I ought to, you should not think that this comes from my forgetting you. Meanwhile, the time presses me to

44. Wolf 1966 (p. 423) contends that if Spinoza had tried to learn more about what Huygens was doing in this area, he probably would not have been able to, since Huygens was interested more in finding out what Spinoza was doing than in sharing the results of his own work. Cf. Huygens' letters to Constantijn, his brother, in Huygens 1888–1950, VI, 151, 168, 215. Huygens mentions Spinoza several times in his correspondence, usually referring to him as “the Jew of Voorburg” or “our Israelite.” Sometimes he expresses admiration for Spinoza's skill as a lensgrinder (VI, 155, 158) and sometimes criticism of his theories (VI, 148, 164, 205). Wolf (1966) gives a clear account of the device Huygens constructed.

45. In Aesop's fable of the fox and the goat, the fox fell into a well and lured the goat in with him by telling her he expected a drought. When the goat joined him in the well, he used her body as a ladder on which to climb out.

bring this letter to a conclusion. I shall write about the other things on another occasion. For now I can only ask you to convey my warmest
5 greetings to the most Noble Mr. Boyle, and to remember me, who am

Yours with all affection,

B. de Spinoza

Voorburg, November 1665

P.S.: I should like to know whether all the astronomers judge that
10 there were two comets from their motion, or in order to preserve Kepler's hypothesis.⁴⁶ Farewell.]

To: Mr. Henry Oldenburg, Secretary of the Royal Society, in the Pall Mall, in St. James' fields, in London

LETTER 33 (OP)

HENRY OLDENBURG TO THE MOST DISTINGUISHED
GENTLEMAN B. D. S.

Most excellent sir, Dearest friend,

25 Your philosophical account of the agreement of the parts of Nature with the whole, and their connection, is very pleasing, although I do not
[IV/177] sufficiently follow how we can eliminate the order and symmetry from nature, as you seem to do, especially since you yourself recognize that all its bodies are surrounded by others, and are mutually determined, in a definite and constant manner, both to existing and producing an
5 effect with the same ratio of motion to rest always being preserved in all together. This seems to be the formal ground itself of a true order.

But perhaps I don't sufficiently understand you here, any more than I did in what you wrote previously about Descartes' Rules. If only you were willing to take the trouble to explain to me thoroughly in what respect you judge that both Descartes and Huygens are mistaken about
10 the rules of motion. You would please me very much by doing me this favor, which I would indeed do my best to deserve.

I was not present when Mr. Huygens performed his Experiments here in London, proving his Hypothesis. In the meantime, I understand that, among other experiments, someone suspended a one pound ball in the manner of a pendulum, which was then released, striking another
15 ball suspended in the same way (but weighing only half a pound) from

46. AHW report that at this time people still thought comets moved in a straight line. So there was often doubt whether two comet phenomena perceived in close succession were caused by the same comet.