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"Naturadeus", a Metaphor of the Perfect Diamond

A dialogue between master Bruno and his absent student Johnon Spinoza's ontological monism

In this essay, the author outlines his re-construction of Spinoza's ontological monism by re-presenting the system of Ethica, *ordine geometrico demonstrata*, in an "intuitive" model of the Perfect Diamond, called NATURADEUS. So, for example, *ordo et connexio idearum et rerum*, is presented to the inner eye in the forms of two parallel structures, of rays and of facets within the NATURADEUS, respectively. The conceptual background of the proposed model is mostly analytic, the author essays to develop some ideas of Jonathan Bennett's *Spinoza's metaphysics* (especially "transattributive mode identity"), with strong emphasis on ethical issues of ontological monism or pantheism. This essay is written as a dialogue between master Bruno and his student John (physically absent at the moment). More philosophical dialogues of this kind can be found on the author's web page (see address below) and in his book *Four Seasons* (in Slovenian, 2002).

Key words: Spinoza, monism, pantheism, metaphor, Bennett.

Master Bruno is sitting at his writing desk. He is leaning over an old and almost decayed volume of Spinoza's Ethics, putting down his notes.

Bruno, writing. And now I'd like to explain to you the essence of Spinoza's philosophy by means of a metaphor. Imagine a wonderfully beautiful diamond with innumerable finely cut facets glittering in rays of light in all rainbow colors. The diamond is named NATURADEUS and is truly an unusual diamond: the light comes not from without nor does it pour from it; rather, the rays circle within, so that they are reflected from its innumerable facets, refracting in its crystal prisms – the diamond is perfect in its immensely complex structure. Can you imagine it?

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John, from under Bruno's pen. I'm trying to, master. Unfortunately diamonds are not my cup of tea... Besides, I can't understand how this perfect diamond of yours is visible when all light remains within. It is more like a black hole than a diamond!

Bruno smiles and writes on. Wait, I haven't told you everything. NATURA-DEUS is namely perfect also in the sense that there is nothing, really nothing outside it — including you, watching it in your mind! Imagine yourself as one of the diamond's facets, and me as another facet; and between us, through the system (actually a little system) of prisms formed by our facets combined with other, near and distant facets, shoot the rays, refracting, dispersing in all directions, traveling to other, distant and unknown facets, and others returning to my mirror or yours; among them are also those which reflect only on your or my facet, and the ones which unite (interfere), though only temporarily, since the interplay of light and colors on every facet is temporary, transitory; it's only NATURADEUS as a whole that is invariable and eternal.

John. What about facets themselves... do they also change in time or do they remain always the same, on the same spot?

Bruno. Everything changes, not only the interplay of rays on individual facets, but also facets themselves, some more quickly, others more slowly – however, in this change within the diamond universe there is a precisely determined and unshakeable order, which remains always the same, since it is necessarily determined by the laws of reflection, refraction and movement of light in general, and by the laws of movement and transformation, as well as coming about and perishing of facets. We could extend the metaphor by saying that the facets might bend in every possible way, but let us stick to "Euclidean" facets for the sake of clarity.

John. So NATURADEUS is our world, our universe... however, if we are two minute facets within its immenseness, how are we to know what it is in its whole? And how are we to know at all it is in its whole – a diamond?

Bruno. Good question! Well, there is an answer to it, even two different answers, since there are two ways for an individual facet to know the wholeness of the diamond: first, when it gazes its infinite diamond sky, extending into great heights, depths and distances, it can see that in its largest scale, still accessible to the gaze, NATURADEUS is the same in all directions (isotropic), despite its structural diversity on the smaller (local) scales; thus it can infer according to the "diamond principle" that NATURADEUS is unified (homogenous) in





general, not only within its horizon where the unification is obvious – although such inference has a weakness that isn't logically necessary, but only fairly probable, or in other words, it is based on the inductive principle of experiential generalization, rather than on the deductive necessity of logic. The second way of knowing, or rather seeing the wholeness is more reliable, though dependent on the ability of mirroring of every individual facet: NATURADEUS is implicitly present in all facets, even in yours and mine – but the mirrors are most often not clear enough to reflect the pure image of the diamond as a whole.

John. So NATURADEUS has a fractal structure – each part, each facet has the same structure as the whole diamond? And each underfacet in the manner of each superfacet...?

Bruno. Yes, indeed, although only potentially, because actually only the form of the whole is perfect, not the form of its parts... or at least not yet.

John. So NATURADEUS develops in time?

Bruno. It does seem it develops, at least within our horizon; but on some facets, which are specially cut, NATURADEUS is reflected in its whole as invariable, eternal.

John. What is its shape like? The shape of the whole...

Bruno. Spherical – since the sphere is the most perfect geometrical body. However, NATURADEUS is not an ordinary sphere, such as we know from classical geometry; rather, it is a perfect sphere in its infinity, *sphaera cuius centrum est ubique, circumferentia nullibi* (the sphere whose centre is everywhere, circumference nowhere).

John. So there is no hierarchical order within the diamond sphere, no facet is higher or lower than any other facet? None is closer to the centre, none to the circumference?

Bruno. All facets are at an equal distance from the centre and circumference – both infinitely far and infinitely close. However, as I said before: the light is not reflected by all the facets equally: NATURADEUS is perfect as a whole, but individual facets are either closer or further from its absolute perfection.

John. Master, although it's starting to dawn on me what your metaphor is all about, I still have a question: how can NATURADEUS serve as a metaphor for Spinoza's system? Could you explain to me how the features of this imagined perfect diamond relate to the theses of Spinoza's *Ethics...* This is your primary intention, isn't it?







Bruno. Of course, we can now proceed to the explanation, now that NATU-RADEUS is given to our mind's eye... It is best to start with Spinoza's definitions of the substance, attributes and modes from the beginning of the first book of *Ethics*:

"By *substance*, I mean that which is in itself, and is conceived through itself; in other words, that of which a conception can be formed independently of any other conception." (Spinoza, *Ethics*, 1d3)¹

"By *attribute*, I mean that which the intellect perceives as constituting the essence of substance." (*Ibid.*, 1d4)

"By *mode*, I mean the modifications ('affectiones') substance, or that which exists in, and is conceived through, something other than itself." (*Ibid.*, 1d5)

A perfect diamond, called NATURADEUS, is a metaphor of the substance, i.e. "that which is in itself, and is conceived through itself", since the metaphor excludes every higher concept or representation, which would form the basis for the conception or image of the perfect diamond; neither is it contained in anything else, except in itself. Mind perceives on it, or better in it, two "attributes", which determine its essence: "the extended thing", i.e. matter, which forms facets, and "the thinking thing", i.e. light, which creates rays. The modes or affections of the substance (its modes of existence or states of affairs, which are countless in number) are illustrated by individual facets and rays, as well as by complex structures of facets and rays, which do not exist in themselves, but in "the Other", that is to say in the perfect diamond, which makes them "visible" to the mind's eye. Analytical philosopher Jonathan Bennett, one of the leading contemporary interpreters of Spinoza, in his treatise "Spinoza's Metaphysics", included in the collection The Cambridge Companion to Spinoza, calls the modes of the extended substance "abstract particulars", such as a blush on a face or a sparrow's fall – this is what he says:

"... in my *Study of Spinoza's Ethics* (Bennett 1984) I have presented a basically coherent metaphysical story according to which finite bodies do indeed relate to the extended world as blushes do to faces or as falls do to sparrows."²

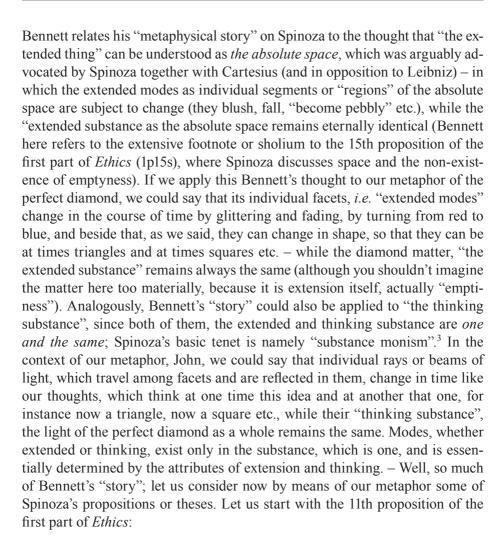






¹ Quotations from Spinoza's *Ethics*, translated from the Latin by R. H. M. Elwes, and here numerated in the standard way, can be found on the webpage:http://www.mtsu.edu/~rbombard/RB/Spinoza/ethica-front.html

² Jonathan Bennett: "Spinoza's Metaphysics", in Don Garrett's (ed.) *The Cambridge Companion to Spinoza*, Cambridge University Press, 1996, p. 69.



"God, or substance, consisting of infinite attributes, of which each expresses eternal and infinite essentiality, necessarily exists." (Spinoza, *Ethics*, 1p9)

NATURADEUS exists necessarily, since Its (or His, or Her) existence is the necessary condition for both logical and natural necessity of events taking place in it. For how could laws of logic be necessary, if there wasn't for a necessary existence of Logos, which grounds them? And how could laws of





³ Bennett, *ibid.*, p. 79.



nature be necessary, if there wasn't for a necessary existence of Nature, which encompasses them all? Expressed in a metaphor: how could individual rays and individual facets exist in their necessary "order and connection", if NATURADEUS had no necessary existence? – And since laws of logic and nature are necessary, it follows that their "being or substance" necessarily exists. In a metaphor: NATURADEUS necessarily exists. Q. E. D.

The 11th thesis of the first book of *Ethics* cited above also says that substance, God-or-nature (*Deus sive natura*) consists of an *infinite* number of attributes. This claim is not demonstrated by Spinoza, but is introduced as a definition, in the 6th definition, where he determines the notion of God:

"By GOD, I mean a being absolutely infinite – that is, a substance consisting in infinite attributes, of which each expresses eternal and infinite essentiality." (*Ibid.* 1d6)

NATURADEUS is revealed to the human mind as consisting in two "attributes", that of matter and light. (Since NATURADEUS is a metaphor, the diamond matter depicts extension and light depicts thinking.) The essence of the imagined perfect diamond is well defined for us with these two attributes, it suits our mind, where both matter and light are necessary determinations of this essence. However, it doesn't follow from this that matter and light are the only determinations of the diamond from the viewpoint of Its own eternity and perfection, which no doubt exceeds the abilities of our conception (it may well consist also of "dark matter" or "dark light", which are inaccessible to our senses and our mind, because we are simply not made from such matter and thought for this "dark matter" and "dark light" to be accessible). On the other hand, the thought of the diamond's perfection in our mind, which loves perfection, begs the assumption that NATURADEUS consists of infinitely many attributes, and (alas) the only two accessible attributes are: diamond matter and visible light (i.e. electromagnetic radiation of visible wavelengths, whereas, for example, neutrino radiation in diamond remains invisible, because we aren't "neutrino beings"); and NATURADEUS consists of infinite and not only many attributes because (as demonstrated by Spinoza in the 9th proposition of the first book of *Ethics*) –

"The more reality or being a thing has the greater the number of its attributes." (1p9)

– and since God's being is by the definition of the concept of God perfect in its reality or being, it consists of infinitely many attributes. The diamond NATU-





RADEUS is a metaphor of God-or-nature, God's being, and therefore itself consists of infinitely many "attributes". Q. E. D. Well, let us continue:

"Whatsoever is, is in God, and without God nothing can be, or be conceived." (1p15)

The metaphor is clear in this point: NATURADEUS encompasses *all* facets and rays, *i.e.* all its "modes", because we said earlier that there is nothing outside the perfect diamond, which is "like a sphere whose centre is everywhere, circumference nowhere", there is nothing else – whatsoever is, is in the One, and without the One nothing can exist or be conceived. For if there was anything outside the One, it would no longer be perfect as it would lack that other, and it would no longer be infinite as it would be limited by the other. However, NATURADEUS is in its conception infinite (*cf.* 1d6) and in its infinity a perfect diamond, so there can be nothing (no facet or ray) outside it, nor without it. Q.E.D.

"Things could not have been brought into being by God in any manner or in any order different from that which has in fact obtained." (1p33)

This is Spinoza's famous thesis of determinism, which many scholars are revolted by – but they should better ask themselves, what and how much can we, beings both finite and limited in reason, know at all as to why God brought things into being in the "order" they were (or are) created and not "in any order different from that"? How could they be brought into being in any other manner – without evil? without sin? without oblivion? without death...? Such a "different" world could well have been better, but it is not up to us to judge that, since we know too little. (Let us rather reconsider what Spinoza tried to say when he claimed that only two attributes are attainable to us among the infinitely many.) And the quest for the cosmic "alternative" is as futile as the opposite belief that we live in "the best possible world", as claimed by Leibniz; most probably, Spinoza wouldn't have agreed with such "cheap" optimism, despite the depth of insight of Leibniz's philosophy, which, as we well know, was scoffed at by the witty Voltaire. In his metaphysical claims, Spinoza was critical and wisely modest, which can after all be attested by his attitude towards the issue of contingency:

"A thing can in no respect be called contingent, save in relation to the imperfection of our knowledge." (*Ibid.* 1p33s1)







Truly enough, how are we to know that not all things are necessary? And if you reply with the question: how are we to know that all things *are* necessary (as claimed by Spinoza), I can reply to you, dear John, that these two questions or their respective answers aren't quite symmetrical; Spinoza namely claimed that things are necessary *sub specie aeternitatis* (under the form of eternity); their necessity is therefore claimed by the "God's intellect", and not that they are necessary *simpliciter*, the way the succession of collisions of billiard balls on the plushy table is necessary, after the cue hits the first ball. However, the thought that, "from the perspective of eternity", things are necessary is intuitively closer to us than the opposite thought, namely that things are contingent from the viewpoint of both God and ourselves – for if we accept Spinoza's basic idea, the *unity* of God and nature, then the contingency of nature, on the level of eternity, would also affect God himself; but how can God, if he is God, be "contingent"? Spinoza says:

"If things had been brought into being by God in a different way from that which has obtained, God's intellect and, will, that is (as is admitted) his essence would perforce have been different, which is absurd." (*Ibid.*, 1p33s2)

Those who understand the meaning of the concept of God in metaphysics will probably admit the absurdity of the claim that the "essence of God" could have been different from what it is – for if it had been different, it would no longer be God, but rather a lower being, some kind of demiurge who in creation depends on external "patterns" and who would, if he were presented with different patterns, create a different universe; in this case, however, there immediately arises the question: *where* do the patterns come *from*, *who* thinks them and determines them in eternity... is it perhaps *someone* higher than the demiurge? And this would again lead us to "the highest God", who cannot be different from what he is. And if God as the most perfect being encompasses the highest "reality", let's call it God's *logos*, then it is quite clear that –

"by reality and perfection I mean the same thing." (2d6)

– of course this is neither clear nor evident, if we understand "reality" *simpliciter*, for instance the movement of those three balls on the billiard table... Individual "things", *i.e.* finite extended and thinking modes, such as billiard balls or figments of imagination, are entangled in infinite chains of causes and effects (cf. 1p28), which, however, have no primary cause in the temporal sense (like in Thomas Aquinas), because reality has no beginning in time, since –





"... that which is finite and has a conditioned existence, cannot be produced by the absolute nature of any attribute of God; for whatsoever follows from the absolute nature of any attribute of God is infinite and eternal." (*Ibid.*, 1p28d)

- the first cause of creation, God-or-nature, is therefore conceived of by Spinoza as the *substantial* first cause, which in its perfection doesn't create immediately individual modes, finite things, which are imperfect and temporal, but rather extratemporally grounds (and encompasses) general laws, according to which things come about and pass, move and change, especially the *law of causality*.

John. Master, have you forgotten about the metaphor of the perfect diamond?

Bruno. I haven't forgotten it; I simply went astray a little... years ago I did a lot of research on the problem of determinism, on the relationship between determinism and logic...

John. What does then NATURADEUS tell us about Spinoza's determinism?

Bruno. NATURADEUS as a whole is necessary, since, as the metaphor has it, there is nothing outside it that would relativize its necessity; also "the order and connection" of its "modes", i.e. facets and rays, are necessary, and are expressed in the laws of geometry and optics; for example that, on the Euclidean plane, the sum of inner angles of every triangular facet equals two right angles, or that the reflection angle of a ray equals the angle of incidence etc. – however, the necessity of laws regulating the "order and connection" of facets on the one hand and rays on the other does not imply the necessity of existence and form of every individual facet or color of every individual ray, if "modes" are seen from their point of view, i.e. not from the viewpoint of eternity and infinity, but rather from the viewpoint of their transience and finitude. In this sense, God's necessity and human free will are compatible, and sub specie aeterni, in God, the necessity is identical with freedom, since the necessity of natural laws is God's free will itself. Spinoza warns us:

"No one will be able to follow my meaning, unless he is scrupulously careful not to confound the power of God with the human power and right of kings." (*Ethics*, 2p3s)

So let us now consider, John, with the help of our metaphor, the most famous thesis of the second part of *Ethics* titled "On the Nature and Origin of the Mind". It is the question of the accordance of logical and causal chains ("order and connection", *ordo et connexio*) between the two attributes of the substance, between thinking and extension; Spinoza's answer to this question, which has







stirred the imagination of many a great minds in the history of philosophy, and is still trying to be solved by the analytical "philosophy of mind", for now without much success, is an astonishing thesis:

"The order and connection of ideas is the same as the order and connection of things." (*Ibid.*, 2p7)

What does this mean? In the "corollary", the annex immediately following the short demonstration of the thesis – the demonstration says that this thesis should be immediately "evident from the fourth axiom of the first part", *i.e.* from traditional metaphysical formula "For the idea of everything that is caused depends on a knowledge of the cause, whereof it is an effect" (1a4), where it isn't perfectly clear, at least not to me, which in this connection is the cause and which the effect – well, in the corollary following the thesis Spinoza says:

"Hence God's power of thinking is equal to his realized power of action - that is, whatsoever follows from the infinite nature of God in the world of extension (formaliter), follows without exception in the same order and connection from the idea of God in the world of thought (objective)." (2p7c)

And further on in a longer note (sholium) that follows the corollary, he goes on to explain:

"Before going any further, I wish to recall to mind what has been pointed out above – namely, that whatsoever can be perceived by the infinite intellect as constituting the essence of substance, belongs altogether only to one substance: consequently, substance thinking and substance extended are one and the same substance, comprehended now through one attribute, now through the other. So, also, a mode of extension and the idea of that mode are one and the same thing, though expressed in two ways." (2p7)

Of key importance for the understanding of the identity of the order & connection of ideas and things are namely the first and second thesis of the second part of *Ethics*, taken together:

"Thought is an attribute of God, or God is a thinking thing." (2p1)

"Extension is an attribute of God, or God is an extended thing." (2p2)

Spinoza's God is namely *both in one*: "the thinking thing" and "the extended thing" – from where it follows that "order and connection" of thinking and extensive things are *in Him the same* order and connection. In other words, mental (or logical) chains in the intellect of God are *the same* as the causal





chains in nature, and are manifested as different solely due to our perspective from two different attributes of one and the same substance.

John. This is in principle understandable, or at least I think it is. But more to the point: how can a specific mode of thinking be the same as the corresponding mode of extension; how can for example the idea of this table be the same as the table itself? Since only if individual elements of mental and causal chains are the same, then it is possible to identify chains as wholes. Am I right?

Bruno. Yes, but this is exactly surprising in Spinoza: the corresponding modes of thinking and extension *are* the same modes, seen from the point of the substance. Spinoza gives an example of the circle:

"For instance, a circle existing in nature, and the idea of a circle existing, which is also in God, are one and the same thing displayed through different attributes." (*Ibid.*, in the scholium.)

John. What does Spinoza's "circle existing in nature" mean?

Bruno. Well, let us say that he has in mind a circle drawn on a piece of paper... or a circle as a geometrical object in general.

John. What then is "the idea of a circle existing", if the circle is already "in nature" a geometrical object?

Bruno. The idea of a circle is a mode of thinking.

John. And the idea of a circle is not extensive?

Bruno. The idea of a circle itself is indeed not extensive; however, among its various determinants, it includes the concept of extension.

John. So, does it mean that the idea itself is not extensional, but intensional?

Bruno. Well, extension is not among the formal determinants of the idea itself... and so the idea of a circle not necessarily implies the concept of extension; in analytical geometry the idea of a circle can be expressed by the function, $x^2 + y^2 = r^2$ and this function as such, in contrast to the geometrical idea of a circle, doesn't include the concept of extension.

John. But those who don't know that this function means the *circle*, namely the geometrical figure, in which all points are equally distanced from some chosen point on the plane, they cannot relate this function to the idea of a circle!

Bruno. True... however, my intention in drawing your attention to analytical geometry was primarily to illustrate how a certain mode, in this case the mode of the circle, can be *selfsame* under different "attributes", the extensive







(geometrical) and thinking (analytical). I believe that this is what Spinoza had in mind with the example of the circle.

John. All right, so be it. But the idea of a circle is after all the simplest of all ideas and it is in this case easy to understand that the idea of a circle is the same as the circle existing "in nature". What about other, far more complex modes, such as a table... or the human body? Does Spinoza think that the human body existing in nature, for instance mine, and the idea of my body are also "one and the same thing..."?

Bruno. This is indeed surprising: Spinoza's answer to your question, considered of course *sub specie aeternitatis*, is affirmative! In God's mind, John's body and the idea of John's body are *the same* mode considered under two different attributes. This is why Spinoza can articulate one of the following theses:

"The object of the idea constituting the human mind is the body, in other words a certain mode of extension which actually exists, and nothing else." (2p13)

... and then adds:

"We thus comprehend, not only that the human mind is united to the body, but also the nature of the union between mind and body. [...] Wherefore, in order to determine, wherein the human mind differs from other things, and wherein it surpasses them, it is necessary for us to know the nature of its object, that is, of the human body." (2p13s)

Later, in the third part of *Ethics*, under the title "On the Nature and Origin of the Emotions", Spinoza relates the human mind even more closely to the human body:

"Mind and body are one and the same thing, conceived first under the attribute of thought, secondly, under the attribute of extension." (3p2s)

And the answer to the questions of skeptics, whether mind is actually only an "idea of body", is that we are far from knowing what lies hidden in the formation of the human body, and that this is perhaps why we are under impression that we could impoverish mind by reducing it to the idea of body.

"No one hitherto has gained such an accurate knowledge of the bodily mechanism, that he can explain all its functions;" (*ibid*.)

This is the topic of Jonathan Bennett, who in his treatise on Spinoza's metaphysics claims that the key to clarify or ground Spinoza's "psychophysical parallelism" (i.e. parallel processes of two inter-reflective causal chains of modes,







psychical and physical) lies exactly in the *identity on the level of modes*, which he names "transattribute mode identity". This is what he says:

"The clue to that [parallelism] is *mode identity*, that is, the thesis that if M is correlated with B under the parallelism, then M is B. This startling statement is first made in 2p7s, and we cannot get any further without finding out what Spinoza means by it. [...] To understand Spinoza's doctrine that a mode of extension and the idea of it 'are one and the same thing', that is, that my body and my mind are one and the same thing, we have to take the term 'mode' seriously."

This, however, does not lead us to materialism, as many critics believed in Spinoza's time and later, even less to idealism – but to *monism*. Bennett says that the connection between Substantialist monism and the "thesis of mode identity" produces the famous Spinoza's "psychophysical parallelism", since

"Just as there is only one substance that is comprehended under this or that attribute, so also any thought–extension complex is only one mode, which can be explained through this or that attribute." 5

The critical question as to why Spinoza insists on the claim that there are *no causal relations* among thinking (mental) and extensive (physical) modes, if we consider that both are the same "thought–extension complex", the claim which Spinoza stresses on several occasions, quite straightforwardly for instance in the following thesis:

"Body cannot determine mind to think, neither can mind determine body to motion or rest or any state different from these, if such there be." (Spinoza, *Ethics*, 3p2)

- this question is answered by Bennett (in my opinion not plausibly) in that this is because we (still) don't know the whole truth of either body or mind. Does this imply that the causal relation between body and mind is simply not (yet) comprehended, *i.e.* that body and mind are distinguished only on the epistemological and not on the ontological level? Perhaps so; however, such an explanation is hardly compatible with the above thesis and other similar propositions, in which Spinoza, as it seems, advocates ontological determinism. Bennett tries to solve the problem by introducing an additional hypothesis (which is truly more acceptable, although unfortunately weaker), namely that attributes are only ways of "perception" of the substance, referring here to Spinoza's defi-





⁴ Ihid.

⁵ *Ibid.*, p. 81.



nition of the attribute (1d4, see above), *i.e.* that they are solely various manners of *our* "perceptions" of reality (modes), whereas in "reality itself" (?) there exists *only* the substance in the countless multitude of modes as internally unified "thought—extension complexes". In "transattribute mode identity", Bennett believes that the role of attributes is solely epistemological, but not ontologically real, which he articulates by means of an illustration:

"It is as though the modes were words written in a script to which intellect is blind, and the attributes make the message of the modes accessible to intellect by reading them aloud, expressing them."

John. And how could we illustrate Spinoza's thesis on the identity of "order and connection" of ideas and things, and Bennett's explanation of this thesis by "transattribute mode identity" in our metaphor of the perfect diamond?

Bruno. O, nice indeed! NATURADEUS is "ordered" and "connected" in two ways: through the structure of facets and the structure of rays. It appears to us in two "attributes": in diamond matter ("extension") and light ("thinking"). The structure of facets, formed in diamond matter, is determined by the laws of geometry, and the structure of rays, formed in visible light, by the laws of optics. The former are "parallel" to the latter: the geometrical structure reflects itself in the optical structure, and vice versa; for instance, rays refract differently on the facets connected in octahedron as they do on the facets connected in icosahedron – and vice versa: just the optics of rays with their set of laws reveals to the view the structure of facets. In mathematical terms, we could say that between structures of facets and rays (and between laws governing them respectively) there is an isomorphism, a bidirectional projection between two sets, in which their internal structure is perfectly retained.

John. Interesting... but it seems to me that the relationship between facets and rays is not entirely symmetrical: facets *cause* the refraction of rays, whereas rays cannot bring about the structure of facets, they only offer the view on them...

Bruno. Indeed, nothing escapes your insight! I admit, this is the biggest flaw of our metaphor, however, this asymmetry is not quite inappropriate for describing Spinoza's system, since he says that "the object of the idea constituting the human mind is the body, in other words a certain mode of extension which actually exists, and nothing else" (2p13, see above), whereas he could hardly





⁶ *Ibid.*, p. 88.

claim the opposite, namely that "the idea of the object constituting the body in the human mind, in other words a certain mode of thinking which actually exists, *and nothing else*", since experience after all gives evidence of our not being "just minds"... Of course, the possibility of perfect symmetry between mind and body depends on *what* mind means for us.

John. True, but even if we acknowledge that the relationship among facets and rays in the metaphor is entirely symmetrical, namely that the inference between them is bidirectional, *i. e.*, not only from facets to rays (for instance in reflection, when a facet changes the direction of a ray), but also from rays to facets (for instance that facets are reshaped under the influence of rays) – there still remains a deeper problem of the metaphor in that facets are here supposed to have a *causal* effect on rays (and perhaps also the other way round), but Spinoza thought that there is no causal connection between modes of both attributes, but solely a parallelism, or, as we just said, a formal isomorphism – whereas in our perfect diamond facets redirect rays and thereby have a causal effect.

Bruno. I agree, but let us not forget that our NATURADEUS is just a mental and/or representational *model* of the "true" Spinoza's substance, God-or-nature; we should not forget that it is only a *metaphor*, which can be corrected and brought in closer accordance with the "original".

John. How?

Bruno. Let us first consider what facets "do" to rays in our given model called NATURADEUS: if we consider the posited limitation that all facets are "Euclidean" (i.e. that they change their form and position but not their curve), we can say that facets, or prisms and other structures consisting of facets, refract rays and thus redirect them (though rays remain within the sphere of the perfect diamond); further, that they disperse them in various wave lengths, which offers the spectacle of rainbow colors and the like. To put it in a nutshell, facets refract rays. Now let us supplement our metaphor with the idea that refraction of rays – it is best to imagine one ray traveling in a zigzag line within the diamond – is not caused by the matter of facets, but that its own ("optical") laws completely determine its path, for instance that some law says: when a ray reaches this-and-this coordinate point within absolute space, determined by the whole NATURADEUS, the ray turns for a number of degrees towards this-and-this quadrant, sector or region of the perfect diamond. The function that would determine directions of a multitude of rays in such a way,







would of course be very complex in comparison to simple optical laws of the refraction of rays on facets; however, such a description is of all goings-on of light, namely the description *without* referring to the facet structure, is possible *in principle* – it is actually no less extraordinary than Spinoza's idea that the "order and connection" of all mental processes is possible *without* taking into account correlative physical causal chains, *i.e.* solely on the basis of parallelism between "order and connection" of ideas and things.

John. What about the other way round, if we set aside the rays and try to describe only the "order and connection" of facets?

Bruno. I believe that in this case the answer is quite simple: we cannot see facets without rays, and thus their structure cannot be described, since in this case NATURADEUS would appear as mere darkness!

John. Of course! ... But master, in what way can mind become aware *of it-self* – how can it reach the *cogito ergo sum*, when in Spinoza it is always linked with body, since the human mind is the "idea of the human body"?

Bruno. You cannot find a clear answer to this Cartesian question in Spinoza... maybe because this isn't the right question for him at all. It is interesting though that Spinoza lists among the axioms of the second part of *The Ethics* the following sentence:

"Man thinks." (2a2)

- which, however, is by far less important within his system than is *cogito ergo sum* within the Cartesian system. For Spinoza, the ground of every cognition is the thought that "God, or substance, ... necessarily exists" (1p2, see above), that is as a "thinking thing" (2p1, see above); it is not difficult to infer from this the necessity that man as one of God's modes exists and *eo ipso* thinks. Nevertheless we shouldn't overlook Spinoza's theses in the second book of *The Ethics* ("On the Nature and Origin of Mind"), where he speaks about the idea of the mind as the "idea of the idea", which is in equal relation to the idea as the idea is to body; the idea of the mind is present in God and, insofar as man is His limited mode, it is also present in the human mind.

"The idea or knowledge of the human mind is also in God, following in God in the same manner, and being referred to God in the same manner, as the idea knowledge of the human body." (2p20)

"This idea of the mind is united to the mind in the same way as the mind is united to the body." (2p21)





In the adjoining sholium, as usually, Spinoza provides an additional explana-

tion of his thought of the "idea of the mind".

"The idea of the mind, I repeat, and the mind itself are in God by the same necessity and follow from him from the same power of thinking. Strictly speaking, the idea of the mind, that is, the idea of an idea, is nothing but the distinctive quality (forma) of the idea in so far as it is conceived as a mode of thought without reference to the object; if a man knows anything, he, by that very fact, knows that he knows it, and at the same time knows that he knows that he knows it, and so on to infinity. (2p21s)

... and not only God but also man as His (or Her, or Its) mode, although he is limited in his comprehension, as soon as "a man knows anything, he, by that very fact, knows that he knows it, and at the same time knows that he knows that he knows it...", he therefore has an awareness of his knowledge and *eo ipso* of himself as the thinking consciousness, since –

"... the human mind is part of the infinite intellect of God; thus when we say, that the human mind perceives this or that, we make the assertion, that God has this or that idea, not in so far as he is infinite, but in so far as he is displayed through the nature of the human mind" (2p2c).

John. Could we also include in our metaphor Spinoza's "idea of the mind" as the idea of the idea?

Bruno. This has been on my mind for some time... It crossed my mind that, in the perfect diamond NATURADEUS, the idea of the idea could be illustrated by the *interference* (combining, crossing) of rays: where rays cross one another (not necessarily on a facet but also in "empty" space between), there arise stronger spots of light, like some sort of "suns" amid mostly empty diamond universe – and it is exactly within these suns that light, metaphorically representing thinking, "becomes aware" of itself, *i.e.* acknowledges its independence from corporeal matter of facets.

John, still from under Bruno's pen. Master, before you stop putting down our conversation and close the notebook, I have yet another question to ask you: does Spinoza's thought that there exists in God "the idea of the human body", such as yours or mine, have anything to do with the belief in immortality and resurrection?

Bruno. Yes, but this relatedness is a puzzle. In the fifth and last book of *The Ethics*, under the title "Of the Power of the Understanding or of Human Freedom", Spinoza says that the time has come to raise the question as to whether the human mind persists regardless of body, that is to say after the death of







body. And he writes down a thesis that is expected and can be implied from his philosophical system:

"The mind can only imagine anything, or remember what is past, while the body endures." (5p21)

But, in the next proposition he adds:

"Nevertheless in God there is necessarily an idea, which expresses the essence of this or that human body under the form of eternity." (5p22)

This claim refers to Spinoza's already mentioned belief that "the idea or knowledge of the human mind is also is God" (2p20), and the human mind is, as we also know, "the idea of the human body". It can be inferred from this – though Spinoza doesn't infer this explicitly – that just as the idea of a triangle cannot vanish from God's intellect, even though all triangles "in nature" would disappear, likewise the idea of the human body, for instance yours or mine or Mary's, cannot be destroyed after your death, or mine or Mary's.

"The human mind cannot be absolutely destroyed with the body, but there remains of it something which is eternal." (5p23)

However, what is "that something" that is eternal? Our images and recollections of things past are not eternal, since they only last until our body lasts (cf. above, 5p21). It is mind that is eternal sub specie aeternitatis, where the human mind is united with the intellect of God:

"Our mind, in so far as it knows itself and the body under the form of eternity, has to that extent necessarily a knowledge of God, and knows that it is in God, and is conceived through God." (5p30)

... and this is the famous Spinoza's "intellectual love of God" (amor Dei intellectualis, 5p32), which redeems man in his mind from finitude, although he does not cherish the hope of a payment in the otherworldly infinity. Redemption namely takes place within mind all the time, here-and-now, not after corporeal death. It is interesting and specific for Spinoza's "pantheism" that it is just the idea of the human body that provides the starting point for the immortality of mind:

"This idea, which expresses the essence of the body under the form of eternity, is, as we have said, a certain mode of thinking, which belongs to the essence of the mind, and is necessarily eternal." (5p23)





This is where the wondrous calmness breaths from, permeating the whole of Spinoza's philosophy. Since, although he knows that –

"He, who loves God, cannot endeavour that God should love him in return." (5p19)

– he is filled with that mature and unshakeable braveness of a sage, which can be felt also in the following words:

"A free man thinks of death least of all things; and his wisdom is a meditation not of death but of life." (4p67)

When master Bruno finishes writing, he looks through the window, resting his mind on the garden's greenery. Meanwhile it has stopped raining and now the evening light illuminates the world with that gracefulness, which promises to embrace the soul with God's light. It is in these moments that the whole world in its unreal transience is eternal.

Bruno murmurs. I am most real when I write.

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