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‘Schneider and Peterman on Spinoza’s notion of Extension’ , 18-10-2015

This paper was written in a few days and may lack focus and attention, for which I apologise to the two authors. I publish it because it may serve as a useful stimulation. It is possible that I will revise it based upon discussion and publish a second, better, paper. Debates around extension are not my main interest in Spinoza, but I recognise the importance of these things and so have quickly tried to bring to bear what I can. I thank both authors for the opportunity to discuss their work, which I have enjoyed studying immensely.

In reading Peterman's original paper I found myself in almost complete agreement with its ideas. Reading Schneider's paper in response to Peterman cast doubt on Peterman's project, and as a reader I found myself levelling out Peterman's distinctions with common sense and simple philosophical intuitions. This discussion paper intends to defend Peterman somewhat against Schneider's remarks and in particular to cast doubt on Schneider's orthodox theory of extension.

For Schneider, the attribute of extension (or, rather 'Extension', as Peterman puts it, marking this use as it pertains to God) is an infinite dimensionality. The ordinary dimensionality of things is treated logically by Spinoza as needing an infinite counterpart that can be known by intuition 'through itself', or as needing no other ideas to form an idea of it. On the face of it, Schneider's universe is very agreeable, and Spinoza, in the sense of a natural philosopher who wants to accurately describe the way things are, can be read to be simply utilising a traditional notion, 'extension'. Spinoza did not then need to define this term, as his contemporaries all know what he means by this term. (Perhaps it seems indeed that Spinoza navigates arguments so well that he is in tune with a Newtonian notion of space as an infinite, empty expanse, which Newton called 'absolute space' (and similarly perhaps with ‘absolute time’)).

Schneider sees no problem in attributing the received (Aristotelian) meaning of 'extension' to Spinoza insofar as it means 'partem extra partem' or parts outside of parts, given that this naturally entails having dimensionality or volume. Again, I assume that this is for the simple reason that dimensionality is an aspect of physical things that requires explanation, and that this is a good reason to see it as part and parcel of God's extended nature, whatever that might exactly be. Peterman, on the other hand, views Spinoza's use of 'extension' as 'very nonstandard' (Peterman 2015, 20), and argues that Spinoza warns against considering dimensionality as essential to God, and, concomitantly, should not even be considered essential to physical things themselves. The two camps are very far apart.

Schneider finds Peterman's views to be inconsistent with the material and with his more straightforward reading, which is the very reasonable assumption that dimensionality, as literally part and parcel of existing things, must needs be expressed in the notion of God's attribute of extension. Rather than excising dimensionality from all of existence, however, I read Peterman as being led by Spinoza's ethical philosophy, which I will mention in considering Schneider’s views, later.

I would like in this discussion paper to firstly look at EIP15s and some of the arguments and citations between the authors in question, and then to make my own assertions against Schneider's reading.

Schneider's criticisms of Peterman seem to centre on E1P15s, and there is some accusation by Schneider of a misreading by Peterman of the intentions of certain arguments made by Spinoza against others. Because the arguments can get confusing and complicated, it is useful to read through the bulk of the first part of the scholium in question, E1P15s[I.], and in this way begin our discussion:

"There are those who feign a God, like man, consisting of a body and a mind, and subject to passions. But how far they wander from the true knowledge of God, is sufficiently established by what has already been demonstrated. Them I dismiss. For everyone who has to any extent contemplated the divine nature denies that God is corporeal. They prove this best from the fact that by body we understand any quantity, with length, breadth, and depth, limited by some certain figure. Nothing more absurd than this can be said of God, namely, of a being absolutely infinite. But meanwhile, by the other arguments by which they strive to demonstrate this same conclusion they clearly show that they entirely remove corporeal, *or* extended, substance itself from the divine nature. And they maintain that it has been created by God. But by what divine power could it be created? They are completely ignorant of that. And this shows clearly that they do not understand what they themselves say."

In the above passage, Spinoza first 'dismisses' those that anthropomorphise God, and, next, he takes issue with the transcendence of God and the inability of this transcendence to account for nature. I wish to draw attention to the comment Spinoza makes to his opponents here - that they cannot, in their denial of corporeal substance to God, explain by what power corporeal things are indeed created. In other words, if all things that exist depend on God, and if extension were not attributable to God, how could it be that the physical world exists? Spinoza intends to walk a line between, firstly, the necessity of affirming that God has the power to make the physical world, and, secondly the perennial requirement to not make God into a dimensionally physical thing himself.

Between these problems we can note that Spinoza indeed favours the denial of dimensional corporeality to God. Consider his phrasing: "For everyone who has to any extent contemplated the divine nature denies that God is corporeal. They prove this best from [dimensionality]". Although Spinoza will be taking issue with other arguments (related by the same people), it seems he is in basic agreement with this position that God does not have a body - or, if I may, that God is not composed after the manner of a body - in the sense of dimensionality. It is interesting that Schneider mentions (in an endnote) that "throughout E1P15s Spinoza has completely followed Descartes terminologically, using the terms extension, corporeality, quantity and matter interchangeably. The only significant terminological difference is Spinoza’s use of the term “infinite” in regard to extended substance".

With Spinoza's head nod to the argument against God being (dimensionally) immense, and with the equivocation Schneider notes between the terms of extension and corporeality, it must be that it is correct to say that God is not extended in a dimensional way. I cannot see how dimensionality still features as essential in God *unless* Spinoza truly meant to preserve dimensionality in his distinction between finite and infinite extended substance, as Schneider claims. Initially, however, it seems clear to me that in EIP15s[I.], Spinoza denies dimensionality just because God, considered as an extended substance, is infinite. Let us consider some of the issues in the reading.

Peterman partly supported her argument against the dimensionality of substance with a difficult section of E1P15s:

"it is no less absurd to assert that corporeal substance is composed of bodies, or parts, than that a body is composed of surfaces, the surfaces of lines, and the lines, finally, of points "

She asserts that Spinoza intended to lead the reader to consider the absurdity that:

"corporeal substance, being made up of three-dimensional bodies, is four-dimensional!" (Peterman, 11)

On reading this in Peterman's text I was intrigued, as it seems to me that what is at stake in the text is the relation of parts to wholes, and not any four-dimensional-ness of substance (nor indeed the non-extension of points that may or may not make up a line) that therefore means to deny by reductio any ascription of dimension to substance. I happen to agree with Peterman, however, that there is an issue of difference in kind between each level of Spinoza's illustration, and Schneider seems to have rushed over considering the evidence for this when citing Spinoza, Ep.12:

"it is nonsense, bordering on madness, to hold that extended Substance is composed of parts or bodies really distinct from one another. It is as if, by simply adding circle to circle and piling one on top of another, one were to attempt to construct a square or a triangle or any other figure of a completely different nature."

Schneider insists that the above explicit relation of one figure to another is an indication that Spinoza thought that the dimensionality of the nature of a figure is important for substance. And so we ask - is substance extended in space, vis a vis dimensional figures, or not? In fact, I'd rather take the passage to mean something much more simple: that the nature of one thing cannot be determined by any other thing insofar as it has a different nature, a familiar argument from Spinoza. Dimensionality in fact does not seem to enter into it, even if it can be read into Spinoza's choice of examples. Oddly, in an endnote, Schneider accidentally quotes Spinoza dispelling this relation between extended figures and unlimited matter (or substance):

"Spinoza is completely clear that determinations do not apply to extension conceived through itself or absolutely: See Ep. 50 “... it is obvious that matter in its totality, considered without limitation, can have no figure, and that figure applies only to finite and determinate bodies.""

I would politely ask whether, if figure (and presumably, volume) belongs only to bodies and shapes, in what way can 'matter in its totality' be conceived as spread out as an unlimited volume, body of space or infinite shape? Do these terms not seem paradoxical given Spinoza's particularist orientation, which Peterman rightly notes (Peterman, 18)? It seems that, above, Spinoza is clearly saying that only things have volume, or, if you will, that only modes have dimensionality. This would seem to lead to the inference that Peterman makes, that dimensionality sans body is an 'abstraction'. Can this situation be saved by Schneider's claim that infinite substance means infinite or unlimited dimensionality, one that can be conceived through itself without a limiting figure? Schneider in fact seizes upon Peterman's use or misuse of EIP15s above and counters:

"Just as surfaces are the determinants of bodies, lines the determinants of surfaces, and points the determinants of lines, Spinoza [in E1P15s] is claiming that bodies are the determinants of *dimensional extension itself* (aka *infinite dimensional extension*)."

Peterman and Schneider both agree that Spinoza does not say explicitly that extended substance is dimensional, or that it is empty space, and Spinoza strangely gives no account of either. The question we need to ask, in my humble opinion, is not in which ways Spinoza truly criticises Descartes' account of bodies (for example, on the issue of the existence of a vacuum) in order to speculate on Spinoza's non-existent alternative account of dimensional extension, for any argument in this direction would necessarily be very weak. The appropriate question, it seems to me, is to consider why Spinoza holds off on giving just such an account. The alternative is to make an imposition of the kind that Schneider is making, by reading into Spinoza a new term, Infinite Dimensional Extension (which I will abbreviate henceforth to IDE). I stand against this reading and wish to introduce some reasons for this.

I have three main arguments against the theory of IDE as a good account of the attribute of extension:

1) That Spinoza was just not interested in dimensional extension

2) That IDE is not in keeping with the spirit of Spinoza's overall philosophy

3) That there is a better alternative that satisfies both Peterman's observations and Spinoza's concerns in EIP15s

1)

I will not labour this point as it seems well known and acknowledged by both Peterman and Schneider. As Peterman credits Martin Lin for pointing out to her, "Following Descartes, and even having written a reconstruction of Cartesian physics, why [would Spinoza] use this word [extension] in such a misleading way, without making it clear that he is redefining it?".

Indeed, there is no account of 'dimension' or 'space' in Spinoza's Ethics, which is peculiar given that Spinoza seems duty-bound to consider affects such as greed or jealousy as if there were 'lines, planes and bodies', and indeed because he also discusses motion and the combination of bodies. We cannot therefore believe that he entirely forgot to give an account of the most fundamental property of living things, or that he was complacent in assuming that he did not need to define it, when he defines pretty much everything else. Schneider claims that extension was such an overfamiliar term that Spinoza indeed neglected it, but I don't find this plausible. I will attempt to give what I think is a plausible reason for this omission in 3).

2)

Schneider claims IDS as follows:

"The fact that Spinoza describes extended substance as infinite, and claims that the intellect grasps infinite extension, and attributes extension to God surely signifies an important break with Descartes’s account of extended substance. But if you look at E1P15s, it seems clear (to me at least) that this break with Descartes is all rooted in Spinoza’s belief that we can conceive dimensionally extended substance as infinite."

The ‘Infinite’ of Infinite Dimensional Extension is intended to account for the difference between conceiving of a thing through itself or through something else. Schneider tells us that dimensionality can be considered as a simple idea that, in its infinite designation, does not depend on any finite measure to compose it (see his discussion below). The attribute of extension is the intuition of the infinity of the dimensionality of space in general, and is in a real sense prior to the existence of physical things. It is in this way that Spinoza sees extension as belonging to God and avoiding the traps of thought of his opponents. Let us look at Schneider's text, which begins with EIP15s:

"[Spinoza's opponents] think that corporeal substance, insofar as it is substance, consists of parts. And therefore, they deny it can be infinite, and consequently, that it can pertain to God (G II/57 25)

Their second argument is also drawn from God’s supreme perfection. For God, they say, since he is a supremely perfect being, cannot be acted on. But Corporeal substance, since it is divisible, can be acted on. It follows, therefore, that it does not pertain to God’s essence. (G II/58 10)"

Schneider characterizes Spinoza's thoughts as follows:

"In response to the first argument (which is actually an argument set), Spinoza claims that all the arguments “from which they wish to infer that extended substance is finite,” “suppose an infinite quantity to be composed of finite parts” (G II/58 20). This supposition leads to apparent absurdities, but Spinoza denies the supposition. (G II/58 20-30) [I’ll have more on this below] For his response to the second argument, Spinoza claims that his denial of the supposition that infinite extension is composed of finite parts is also sufficient. For according to Spinoza, the second argument too “is based on the supposition that matter, insofar as it is substance, is divisible, and composed of parts.”[3]""

Schneider's analysis here I think is correct. What Spinoza seems troubled with, to my mind, is that extended substance is being thrown away with the finitude of dimensional extension and divisibility. It does not seem to me to be a valid inference from this that Spinoza wishes to rescue dimensional extension. I believe that if this were the case, Spinoza would have explicitly said so. Schneider, however, has a different view:

"What Spinoza rejects here of the Cartesian account of extended substance “is the supposition that it is composed of finite parts,”[4] for it is this supposition, and not dimensionality, that prevents his opponents from granting that dimensional substance is infinite, and therefore worthy of the divine nature. Note the subject of the dispute: It is dimensional extension that his opponents deny can be infinite, or be conceived as infinite, and it is this same dimensional extension that Spinoza insists is infinite, and can be conceived as infinite."

It is much more likely that the 'subject of the dispute' is not dimensional extension but simply extension (whatever that is), in the simplest sense of extension as substance. In 3) I hope to indicate that there may be a simpler and better notion of extension that makes greater sense of the positive claims of Spinoza's philosophy, than does dimensional extension.

Now, concerning the above, whether we say that extended substance has dimensionality seems to depend on whether Spinoza takes up dimensionality from Descartes into his idea of infinite extended substance, and denies the Cartesian account of substance only insofar as it is finite. But not only is Spinoza criticising Cartesianism throughout his work, making this account problematic at the very least, I also feel that this view is an instance of moving the goalposts. Instead of finite bodies being essentially dimensional in their finitude, now we are up one level saying that it is the whole of infinite nature that is essentially dimensional in its infinitude.

Let's consider the rather terse arguments concerning the nature of a vacuum, and what Schneider concludes from it. From a brief reading of Bennett I think I can paraphrase Spinoza's argument as requiring an answer of the Cartesians to the following question - why does each individual in (the whole of?) nature not get reorganised when we imagine something to be removed from it? If nature is made up of discreet parts, in other words, things would have to be connected differently and reordered. However this is not our expectation, showing that we know that extension is not made out of such discrete parts.

Schneider notes that "It is inarguable that Descartes’s denial of the possibility of a vacuum is rooted in his identification of extended substance with dimensionality (see for example CSM 230)" yet rather thinks that the issue means that " those who think the nature of dimensionality excludes the possibility of a vacuum must also accept that the nature of dimensionality is such that it cannot truly be composed of parts". I think dimensionality and extension simply get conflated here - it is extended substance that Spinoza argues is not composed of parts, not dimensionality. I think it is uncontroversial to Spinoza that dimensionality is synonymous with being composed of parts, and whether or not extended substance is dimensionality is not indicated and stands in need of evidence. It is true that to modern minds a notion of fundamental underlying space springs to mind here, but that does not have to be what Spinoza meant, nor does it have to be true.

In EIP15s[V.], after Spinoza says that 'matter is everywhere the same' for the intellect, and is only modally divisible for the imagination "only insofar as we conceive matter to be affected in different ways", he offers an example of this distinction, that of water:

"For example, we conceive that water is divided and its parts separated from one another - insofar as it is water, but not insofar as it is corporeal substance. For insofar as it is substance, it is neither separated nor divided. Again, water, insofar as it is water, is generated and corrupted, but insofar as it is substance, it is neither generated nor corrupted."

The hypothesis that water can be divided but IDE behind it, cannot, seems to me very problematic, for the power of a thing to have extension needs to depend on the attribute of extension or (what is the same thing) be able to be conceived through it alone. Spinoza is clearly saying here that corporeal substance cannot be divided, but surely the usefulness of IDE is in accounting for ordinary geometrical extension by the modification of this infinite - a location becomes an object. Let us assume we can accept that this means that the infinite does not become finite, or that its indivisibility is suddenly divisibility, yet the dimensional nature of substance must be such that it "provides the basis for, all the determinations of geometry. This, I take it, is nothing other than the infinite dimensional extension that the[sic] Spinoza attributes to God". Just exactly how IDE can provide the basis for ordinary dimensional extension - which it must do, otherwise why are we considering it as essential to the universe - given that its standing both sides of infinity, threatens being paradoxical.

I have no problem, however, conceiving of IDE as if it were water. If water is divisible just because it is water, so is dimensionality. Insofar as dimensionality is an infinite substance then, like water-insofar(-etc), it is not divisible. Infinite substance can be conceived as another thing entirely than as dimensionality, in the same way as it is not water. IDE may just be the idea of a very large mode that we claim to be infinite, or it could indeed be infinite for the sake of our reasoning only. I feel that IDE presents itself as infinite just because it is abstract, but any real conception of it is always of a divisible finite area of space. Schneider notes that:  
  
"some philosophers have claimed it is impossible to imagine infinite dimensional extension. For, they claim, while there is no limit to the size of any body you might imagine, you still cannot in this manner, positively imagine an infinite dimensional extension. All you grasp is the indefiniteness of extension."

I would not claim that you grasp even this, since all I can conceive of with the thought of IDS is a region of space ('outer space', oddly) that I then have to remind myself is supposed to go on forever. I cannot hold this expanse-to-forever in my mind because that means conceiving of an infinity of dimensional space all at once. Yet Spinoza claims that we can have a simple, real conception of extension in itself - the attribute of extension which belongs to God.

Spinoza's Cartesian opponents "suppose an infinite quantity to be composed of finite parts", and we must still be in the ballpark of this Cartesianism when we conceive of IDE as somehow accounting for the physical dimensionality of things. No account of how IDE interacts with the world, other than its standing as a logical entity, or its somehow guaranteeing vacuums, is forthcoming from Schneider's text. This is a pressing issue, as Schneider echoes my naive image of IDS with some of his closing remarks:

"if one was successfully to think of dimensional extension itself—and not its modifications—one would think of a single, infinite, expanse. For to think of any plurality or divisions, to imagine any sort of figure at all, is to think of this expanse as modified through some sort of determinations. If this is right, then thinking of dimensional extension through itself gets you all the features Spinoza mentioned regarding quantity2: you form an idea that is difficult and rarely formed, of a quantity found as infinite, unique, and indivisible. And since you cannot form an image (or figure) of such a quantity, this idea would only be found in the intellect.

Text aside, I think this is very a plausible way for Spinoza to have thought about the nature of dimensional extension."

I suggest, with some trepidation, that Schneider has taken, along with other orthodox readers of Spinoza in these matters, an abstract idea, that of dimensionality considered separately from the bodies that have it, and cut it off from the power of real extension by making it (the wrong kind of) infinite.

Schneider, et al., must concede that there is a more fundamental power at work in extension than dimensionality, for its being infinite explains nothing of the world. I have the idea of inert, empty space, which I must assume generates individual things as modifications of its dimensionality. But if we imagine substance in this way as an infinite thing generating finite things, it falls to Spinoza's critique in EIP12 and EIP13 - that infinite substance must be indivisible and no division can 'follow' from it. It is strange that Schneider does not tackle the possible reading of Spinoza as standing with Leibniz against Clarke on exactly this issue. Both Peterman (7) and Bennett (1980) affirm this stance.

Again, can IDE modify itself to produce finite things? If it does, then there is the problem of how it can be conceived to limit itself. Spinoza often states that when we consider two things to have something in common that is negative, then they have nothing in common. Consider EIVP32s:

"If someone says that black and white agree only in this, that neither is red, he affirms absolutely that black and white agree in nothing. Similarly, if someone says that a stone and a man agree only in this, that each is finite, lacks power, does not exist from the necessity of its nature, or, finally, is indefinitely surpassed by the power of external causes, he affirms completely that a stone and a man do not agree in anything. For things which agree only in a negation, *or* in what they do not have, really agree in nothing."

If two spatial objects are conceived as the limiting of unlimited or infinite space, then they do not share the same attribute in common, and do not have the same cause. This is because what they share in common is that they are both not unlimited, unlike substance. Given the above, this must ultimately mean that they do not share basic reality in common (which a man and a stone must at least agree in). EIP12Dem. is also instructive in a similar vain. It should also be noted that Spinoza references EIP12 and EIP13 in EIP15s[IV]with the words "anyone who is properly attentive will find that I have already replied to [the arguments against God as an extended substance, with which we began our discussion]" with precisely these two previous propositions. If we take this seriously for a moment, it does imply that Spinoza is not in fact arguing for anything new in EIP15, such as the alleged dimensionality of extended substance, which as I keep mentioning, is being read into the text.

There is a further problem with the commonality suggested by IDE. If things have in common the fact that they are inhering collectively in three (or four or whatever) dimensions, then they have an external account of their nature, since they are *partem extra partem* not in an ordinary sense but by dint of substance. What seems to make them what they are is their effect on each other in relational space, not their internal nature and capacity to be affected. If, on the other hand, they were considered to belong to the order of nature only through an internal creation, and this alone had the nature of substance, then their relative dimensions to other things can be considered secondary to or a counterpart of their nature and their capacity to be affected. If the reading of bodies as extended in IDE is correct, then the conatus, the striving of things to persevere in existence, of responding actively to their affects through the capacities of their nature, becomes a secondary property of things, not a primary one that expresses their essence.

The hypothesis of IDE allows me to read EIVP32s, above, in a certain way. Firstly, both a man and a stone (finite parts) will have their commonality conceived as a lack of power, because they lack the infinity of God. Secondly, they will not exist by the necessity of their own nature but in relationship with a cosmic background that is first able to relate them to each other. Lastly, they are also both surpassed in power by external causes, which perhaps suggests inferiority not only to more powerful discrete objects,but also to IDE itself.

It could be maintained that these points are arguable. They are made stronger, I believe, by consideration of the simple overall ethical theme of the Ethics itself, that of the increase in perfection. In the Preface to Part IV Spinoza states "For the main thing to note is that when I say that someone passes from a lesser to a greater perfection, and the opposite, I do not understand that he is changed from one essence or form, to another". It is hard to conceive of the addition of 'dimensional' to 'infinite extension' as implying anything other than that sharing more or less in this dimensionality means a change in form. It can also not be the case that something that becomes more perfect susbsists longer in dimensionality, "For no singular thing can be called more perfect for having persevered in existing for a longer time".

I believe that IDE is opposed vigorously by the concept of conatus and its related ethical rationale. IDE makes the argument for a cosmos, such that everything that exists has a cosmological essence and is a modification thereof; Spinoza himself insists upon the identification of a radically internal essence and the power (of God) of a body to exist (in God, and not in something else).

In the General Definition of the Affects, Spinoza points out that "it should be noted that, when I say *a greater or lesser force of existing than before*, I do not understand that the mind compares its body's present constitution with a past constitution, but that the idea which constitutes the form of the affect affirms of the body something which really involves more or less of reality than before". To me, IDE seems to be an always-already existing reality that allows for precisely this ship's captain image that Spinoza denies.

To put this in another way, IDE seems to put the focus of study outside of the affects. On the contrary, Spinoza claims in EVP15 that "He who understands himself and his affects clearly and distinctly loves God, and does so the more, the more he understands himself and his affects". The ethical imperative to focus on death is also a reason to be suspicious of abstract universal essences like IDE, as in EIVP67: "A free man thinks of nothing less than of death, and his wisdom is a meditation on life, not on death". In contrast to this, consideration of life and death in infinite extended space, where the self is infinitely small (paradoxically?) is completely crushing - accommodate or die. Perhaps this is an exaggeration, however, considering EVP38, but it certainly must be the case if it ignores essential aspects of the philosophical-ethical project, such as the primacy of the affects.

If dimensionality is an expression of bodies, then, IDE would on this account be an abstract universal that depends upon the nature of bodies (our own) in the order of nature, and not on God. It is not difficult to see that the ideas of space and time have a history, that is to say, why I have one image and conception of them rather than another, and that our allegedly immortal conception of them is historically determined. This gets discussed by anthropology, by various histories of science, and so on.

IDE also does not fit with the nature of motion. Spinoza calls motion an 'immediate infinite' of extension. If IDE were the case, that is, that dimensionality per se was the essential power of nature by which physical things exist as they are, motion would be mediated by it and subsumed under it. I think Spinoza's attitude to dimensionality makes it clear that this is not to be thought the case, and his discussions of motion make it clear that it is the motive nature of motion, and not motion arising from the arbitrary division of empty substance, that accounts for diversity.

This is a major issue and one that harks back to our initial quotation of EIP15[I], where what Spinoza ultimately criticises others for is their lack of account when it comes to the 'power' of substance to make the physical world exist. IDE lacks just such an account, and it does not fit with Spinoza's own account of motion.

In EIIP26C and its Demonstration, Spinoza makes the following summary of his position regarding bodies, affects and the imagination:

"Cor.: Insofar as the human mind imagines an external body, it does not have adequate knowledge of it.

Dem.: When the human mind regards external bodies through ideas of the affections of its own body, then we say that it imagines (see P17S); and the mind cannot in any other way (by P26) imagine external bodies as actually existing. And so (by P25), insofar as the mind imagines external bodies, it does not have adequate knowledge of them, q.e.d."

It is clear here that by imagination Spinoza does not mean what we usually take it to mean - complete unreality. So to say that dimensionality belongs to the imagination is not a slur on the good name of the physical sciences. In fact the imagination is imperative to the conception of the actual existence of external things. But rather than this actual existence needing the explanation of the third kind of knowledge, for which IDE petitions, it is instead the second kind of knowledge that is at operation here. On this account, IDE is a well-reasoned common notion that arises from the imagination, and which orders the connection of external bodies to our own. Consider these words from EIIP40s, which tells us that since we can only imagine a certain number of things at once,

"…the images in the body are completely confused, [and] the mind also will imagine all the bodies confusedly, without any distinction, and comprehend them as if under one attribute, namely, under the attribute of Being"

I feel that IDE is a mixture of sound reasoning and this sense of an idea of Being that gets misapplied as an attribute of substance.

The second kind of knowledge is characterised of course by necessity, regarding that order of nature mentioned in EIP16, where Spinoza notes in his Dem., that "...the intellect infers from the given definition of any thing a number of properties that really do follow necessarily from it (that is, from the very essence of the thing); and that it infers more properties the more the definition of the thing expresses reality". I think it is very plausible to consider the idea of infinite dimensional space to be a very concrete example of just what we need to imagine - common notions and universals - in order to infer properties of objects. What should be said further is that this is not the end of the issue, since to have the best definition of a thing will be to know it "perfectly, *or* in the best way" (a nice phrase from EIIP43s), and so on. The second kind of knowledge will allow us to make inferences and reasoning about the order or nature, or external objects. What the third kind of knowledge does is discover the nature of things as they are in God, internally and no longer as external objects. When we know things as God knows them, then to that extent we are the mind of God and we participate in the reality of things.

3)

In this brief final section I would like to suggest something that figuratively jumped off the page at me whilst I was reading Peterman's text, that I feel is a very strong candidate for a good explanation of what Spinoza meant by 'extension' (or, in Peterman's terms, Extension). It also has two very strong advantages in that, firstly, it is immediately clear why Spinoza would not feel that he has to explain such a notion (unlike Schneider's IDE). Secondly, it intuitively must be the case that this is behind the physical existence of anything whatsoever (again, unlike IDE, which has no account). The idea arises in Peterman where she notes Spinoza's definition of 'extension' in Descartes (Peterman, 20):

“Extension is what consists of three dimensions; but by extension we do not understand the act of extending, or anything distinct from quantity”

I wonder if Extension can be better considered as the act of extending, which is the force involved in being extended itself, or extension conceived as a pure activity. From this hypothesis it would be clear why Extension can be given no extra account, or, as Peterman puts it, be explained by more basic terms (Peterman, 21). Spinoza simply uses the word 'extension' in the sense of a verb, not a noun - an activity or a fundamental force of process rather than a description of a state. It occurs to me that it must also be the case that extension must be primarily felt, not thought, and known through an absolute and eternal intuition. Consider, for instance, the 'parallel' of mind and body of EIIP13, and the affirmation of the body's actual existence.

With this new knowledge of the active meaning of Extension in hand, along with Spinoza's explanation of the conatus and the principle of self-preservation, a rejection of unlimited dimensionality as the essence of the attribute of extension seems likely. I suggest that dimensionality is a property of things that occurs through the act of extending, and which can be imaginatively and rationally known, abstracted and helpfully universalised. But insofar as this is an operation of abstraction, and insofar as it ascribes duration to existence, it is a consideration that belongs to reasoning from the common order of nature, that is, when things are considered causally in relation to other things and not as being caused by God.

Lastly, I wish to qualify Peterman's use of quantity1 and quantity2 by using the word 'types' instead of 'kinds' to describe the difference between them. Nothing in Peterman's arguments seems to require there to be 'kinds' of quantity in the hard dualistic sense, and indeed Peterman says repeatedly that dimensionality belongs to things in the sense of our conception of them in the order of nature, even citing EVP29 after EIIP45 to say that dimensional things are actual and not unreal - which fact doesn't even suggest itself to me in my reading that proposition at all ("We conceive things as actual in two ways", writes Spinoza in EVP29s: this is clearly about our conception of actuality and not a supposed hard, external factual actuality).

There is every indication that Peterman bends over backwards to not debunk the very idea of dimensionality. What Peterman does do however is note what Spinoza says is the difference in conceiving of the world in a dimensional way, involving abstraction and imagination, and of conceiving of it as it follows directly from the divine nature, revealing the thing in itself. EIIP45 is indeed instructive and, in my opinion, one of the most powerful propositions in the Ethics, and one that Spinoza refers to often. Peterman holds off on quoting the scholium in its entirety, but the final sentence in fact supports my reading that it is the force of existing, not the place of existing, that is the genetic factor in physical existence:

"I am speaking, I say, of the very existence of singular things insofar as they are in God*. For even if each one is determined by another singular thing to exist in a certain way, still the force by which each one perseveres in existing follows from the eternal necessity of God's nature.*" (EIIP45s, my emphasis)

Matthew Astill, 18-10-2015

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