

PAPER 1: TAKING A PRAGMATIC POSITION FOR DESCRIBING OBJECTS, TIME, SPACE, AND MAKING AN EXTRA-MODEL OF THEM¹

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ABSTRACT: This Paper 1 introduces a tentative Formalism, which is detailed in a separate Paper 2, and tested there on two cases studies of Time dilation. Paper 2 titles: Practical application of the composite Modeling Units, and an exercise on emulating the mathematics of Time dilation in a relative velocity or gravity situation.

We touch exclusively at the way we describe the physical Objects in human terms, whilst the true Objects, as well as true Time and true Space, remain unchanged. The

¹ Disclaimer: Our Papers 1 and 2 qualify as a bare and unchecked proposal. They express a possible Formalism which is still under construction. Paper 1 introduces it intuitively: most of all, we want to flag out the unusual ideas and the assumptions that our proposal contains. Paper 2 presents more systematically the elementary block which starts the Model: we also make some practical exercises on our Massive-like formal Objects, and on their mutual Model Relationships.

The Model uses elementary Logics, and it does not express through mathematics. Hence we propose a possible formulation in terms of key assumptions and associated listings of practical instructions. The whole is conceived to work in parallel with the regular Modeling of Objects, and basically to reproduce the results we already know from Physics.

We checked to our best the proposal below, and up to now we did not find relevant conflicts with the regular human Modeling of Objects. Paper 2 benchmarks the whole against the well-known formulae for Time dilation in a simple velocity or gravity situation. Should anyone detect any deviation there or in the future Model blocks, this Formalism shall revise to fit correctly, and the whole proposal reformulated or eventually discarded.

References on the regular conceptualization and Modeling of Objects, Time, and Space, are widespread in the literature (attached short-list). They can be easily found also on the internet. The pragmatic approach we take here is unusual and unproven, thus we cannot provide specific references. In any case, the Model inspires to, and basically copies a few well-known formulae from Physics. This is highlighted in Paper 2, and the whole qualify as a plain generalization, rather than something really new.

particular Formalism we propose is geometrically-blind, so it needs to work in parallel with regular human Observing-Modeling of the Objects.

A good question is why we should complement our regular geometric picture of the Objects, and also think of them as our Formalism does. The possible advantages are: a much intuitive and practical handling of the human Nonlocal; a plain reading of human Objects and of their Relationships in terms of elementary Logics; a common Modeling frame for the formal light-like, and for the Closed and Local Massive-like Objects we have in the Model.

We may also gain some independent hints on the human Observing-Modeling in general. The Geometry of our own body qualifies Closed and Local, so it is much similar to the one of regular Objects we want to Model. As a matter of fact, our body makes a concrete Observing-device, thus we qualify as a very particular case of Observer-Modeler of the physical World.

We want to conserve such a concrete and well-established human position with regards to the Objects, but we want also to generalize it. Thus we attempt extending our naïve Geometric perceiving of the World, and see where it leads.

Section 1 focuses on Geometry, and proposes a logically-inverted Geometry B as a natural complement of our regular Point-based Geometry A. Then we explore the idea of a composite Model Object made of both a Local and a Nonlocal part. We base on a double Point-Of-View, which reflects formally our new A-and-B Geometry.

Section 2 investigates the Point-Of-Views, as a second key element on which we base any human Observing-Modeling of Objects. We propose a pragmatic Absolutism-Relativism classification of the Model Parameters. This depends plainly on where we Modelers want to set the Point-Of-View, and basically makes a practical tool for reproducing the objectivity of an Object, and the objectivity of the Observation.

Section 3 checks the implications, and handles pragmatically the human conceptualizations of Time and of Space. The scope is very small-minded, and we declare openly not to know what those items are. Instead, we formalize a Model Time-like and a Model Space-like to start working practically with our Objects. This requires introducing a human notion of Time which is discontinuous, and thus very particular to our Nongeometric Modeling of Objects.

Section 4 anticipates the two kinds of composite elementary Objects that we can formalize based on the components above. They are made of a geometric-like body A-B, which includes a Logic A-B and a special Time-like function on board. We specify our Objects as being concrete and to conserve as usual. We can however explore the

effects of the Logic, so we get a flexible Modeling Unit, which can take different configurations, and emulate different kinds of Objects.

The full Procedure appears in Paper 2. Below we simply suggest a possible handy visualizing of our composite A-B Objects. We also provide a few practical indications on how they work and behave formally in the Model. The whole refers to the well-known Point-Mass scheme. Operatively, we build an equivalent which is Nongeometric and contains two-Slabs A-B, where A emulates the solid core of a regular Object. Then we set our two key-standards, which are the elementary Model Objects of the kind of Proto1 or Proto2.

KEYWORDS: Physical Objects; Model Time; Model Space; Local and Nonlocal; Conceptual Model

I. EXTENDING THE ROLE OF THE HUMAN OBSERVER-MODELER AND GETTING A DOUBLE GEOMETRIC QUOTING.

Our practical goal is to set up a prototype Object, which could generalize the geometric picture of the many regular Objects we see around in real life. We just want to start the Model, and focus on Objects which are small with regards to geometric infinity. This matches the well-known Point-Mass scheme, and we will extend this same scheme to the one of a Model Object with a Local and a Nonlocal part. We start with its geometric-like components and proceed step-by step (S1-S36).

S1. Inherent assumptions.

We retain a few points before we start:

- The physical World is concrete, and we are a concrete Observer-Modeler in it.
- Any conceptualization that we produce is a human Model.
- We accept that some organization comes first in Nature, and this in turn allows humans to produce organized thinking.
- Observing-Modeling has an inherent contradiction that we would not solve here: the physical World is concrete, whilst any intelligent picture of it is a conceptualization, and it is abstract.

Our conceptual scope is very limited:

- We only consider Unambiguous and concrete physical Objects; we classify them as either Closed Local Objects, or Open Nonlocal Objects.
- We only care of the human Geometry and of the human Logic that we want to apply to our human Model of Objects, Space and Time; we keep apart the role of Geometry and the role of Logic in this scenario.

- Any human word we use is a Model by itself; we mark by a capital initial the ones which we are especially interested in.
- We formalize different Point-Of-Views (POVs), and adopt the convention of writing: he, when we mean that the Object=POV plays the Observer (on our behalf); it (as usual), when we mean that the Object is Observed.

S2. Geometry of the human Observer-Modeler.

If we think of the way we Observe-Model the physical Objects, an initial question comes to mind: whether we really need a sharp distinction between physical Objects and the Observer.

We start by accepting that we are a particular case of Observer-Modeler, as we sketch in Fig. 1:

- Our Observations cover the physical run from just outside our head till geometric infinity.
- We see an Open geometric Space, where there are many regular Objects of real life.
- We have the concrete Geometry of a regular Object.
- We are small-sized relative to geometric infinity.
- We are as such Point-like, and Observe by a Point-like POV.
- The scheme is the one of an Object who observes another Object.
- We always stay outside the Objects we Observe.
- We are the sole physical Object who Observe-Models the many other physical Objects, and this makes an asymmetry.

Then we produce a particular Model made of Space and of Objects. To find the implications and a possible generalization, first we consider concrete and regular Objects in real life.

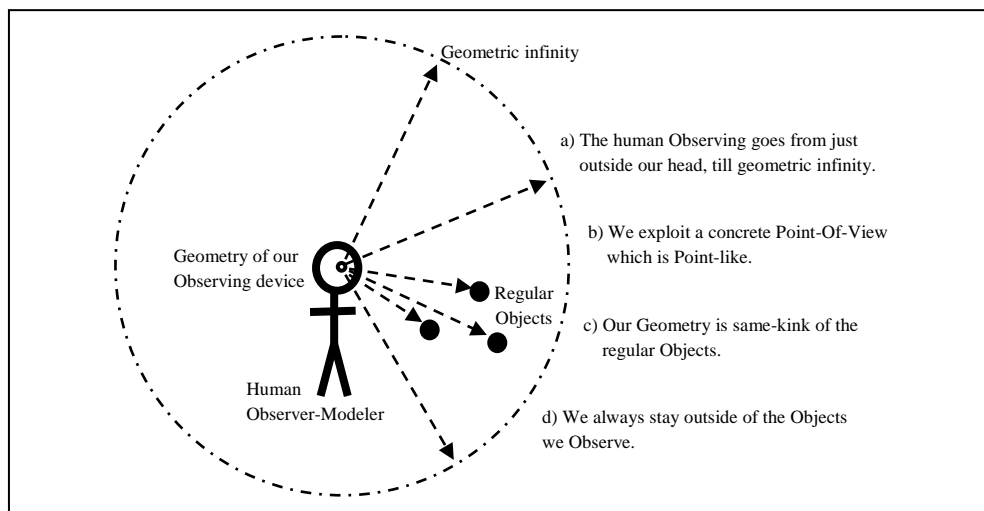


Fig. 1: Geometry of the human device as a particular case of Observer-Modeler (not to scale).

S3. Assuming that the human Model is made of Closed, Local, and Unambiguous Objects.

Our natural perception of the surrounding World is a geometric Model and is based on the regular Objects we see around us. We consider them as Unambiguous, Closed, and Local. This makes a first kind of Object which we are interested in.

The point is that we give our human Objects those three precise attributes. We basically wonder which concrete conditions we need, for us to claim that our Model Objects qualify Unambiguous, Closed, and Local. We consider that the three attributes we give to our human Objects depend both on the kind of Objects and on the particular Geometry and Point-like POV that we apply to them (human-contamination criterion). We make explicit the implications that we want to transmit to our Model:

- i. Unambiguous (single-valued Parameters, e.g. no two sizes or two Masses at once):
 - Unambiguity is a key element of the human Observing-Modeling of Reality; we want it to play explicitly in our integrated frame of Objects-Time-Space.
 - For concrete Observers like us, making sure that something is Unambiguous requires finite nonzero Time; our Observation of an Unambiguous Object cannot be matter of an instant during zero.
 - We will leave this point in stand-by for a while, and soon return to it when we have to decide which form we really want to give to our Model Time (Section 3).

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- ii. Closed (neatly-separated from Open Space through some geometric Interface):
- We are a Point-like Observer as we sketch in Fig. 2a: we normally see just one side of the Object; when we conclude that it is Closed nevertheless, we refer to more than one Observation, or count on something which is actually a memory (e.g. the sum of any experience that we have ever made with regular Objects). We have no evidence that Nature has a memory, and here we retain that by just one single Observation, a Point-like Observer cannot determine whether an Object is Closed.
 - To make a second Observation on the back-side of an Object, we need to enter concretely Space beyond that Object (sketch of Fig. 2.b): should a concrete Space cone be missing there, we could not complete our survey, and the question on whether the Object is Closed would remain unresolved. As a matter of fact, we can determine that a particular Object is Closed, only if there is a concrete and complete physical Space all around that same Object. This makes an inherent requirement for any single Closed Object.
 - The whole takes place in our concrete World. Therefore, Space is a key and much practical element for having Closed Objects in our human Model of physical Objects. This first property also relates to our natural Geometry, and to the particular Point-like POV that we hold on regular Objects.
- iii. Local (Unambiguous position, and quite a clear-and-net geometric shape in Space):
- To set an Unambiguous position of the Object, we need an Unambiguous Geometry: our human Geometry is Point-based, and no sharper element could be conceived to make it more precise than that; should our Geometry be made of rough dots or of rings, it could not assure the same precision (and most probably, our human perception of the World and of the Objects would be much coarser, if not markedly ambiguous).
 - The ability of locating precisely an Object in Space, and of classifying an Object as Local, comes therefore from using a Point-based Geometry. This second property also relates to our natural attitude toward Geometry, and to the particular Point-like POV that we hold on the regular Objects.

An atomic orbital allows actualizing the idea: nowadays we know that regular Objects are not at all clear-and-net; instead, they are a complex assembly of many complex particles. We nevertheless consider that the orbital makes an acceptable

extension of the human idea of a Closed-and-Local Object: once we calculate probabilistically that given electron cloud, its overall geometric shape stays Unambiguous; such a human concept is probabilistic and much advanced, but basically we can count on that precise electron cloud, and Nature never deceives us. Its Geometry is not so sharp, but it shows nevertheless a substantially-Closed core, which stays reasonably distinct from the huge volume of Open Space, and which basically Localizes by the precise center of Mass of the nucleus.

This makes in any case a much complex system and it is made of more than one particle. We may suspect that its features come not only from the individual Objects which are in it, but from their mutual Relationships also. Here we consider that the Relationships pertain to a level which adds to the bare individual Objects. Therefore, such an example goes far beyond our scope: we search instead for an elementary organization of the elementary Objects, and we only want to start the first-level operations of our pragmatic Model.

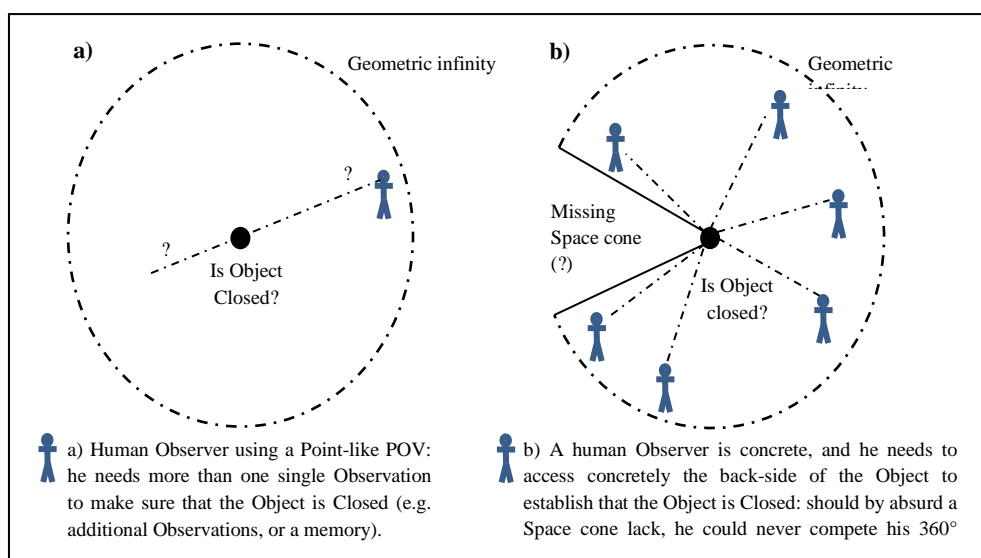


Fig. 2: Roles of the POV and of Space for having Closed Objects in the human Model.

- S4. Equal weight of Space in determining a Closed Object into the human Model.
- If we accept the positions above, a first set of implications comes. We retain that no Closed Object could be defined humanly without a Space around it:
- We adopt a given conceptualization for the Objects and a separate conceptualization for Space, but the two work together.

- As we consider concrete the Objects, we should accept that Space is concrete as well.
- As we say that anything which is concrete makes an Object, we should Model Space as an Object.
- The argument is quite general: it holds for any regular Object, and independent from the others. Hence it applies to just one single Object, and to all of the Objects one-by-one. To the limit, we should think of an individual Space S_i for any one of the regular Objects we count around us.
- Basically, the human sense of Space may be made of many concrete and particular Open Spaces, where each one is allocated to any particular Closed and Local Object.

Space however is different than a concrete regular Object. It has no geometric shape and cannot be determined to be in one place or another. On the other hand, we have just suggested that locating an Object as we do normally, is strictly tied to the particular Point-based Geometry that we use.

A different Geometry may therefore help to make the difference. Later on, we will call Geometry A our natural one, and Geometry B its formal extension. The first will continue to handle Local Objects, whilst the second will become our formal tool for handling Space as a concrete Nonlocal Object.

S5. Checking the opinion-like of two Objects 1 and 2 on a given bit of Space.

We take formally the POV of two Objects as in Fig. 3, and apply to them a conceptualization of Space much similar to the human one:

- A single human Observer holds a single geometric position, and has no means to discriminate Space according to his own Observations: any bit of Space has a given distance relative to him, and this Parameter makes the natural and sole option for him.
- The same bit of Space, however, has a relative distance from Object 1 which is different from the one relative to Object 2; the relative geometric curvatures that the two Objects may want to attribute to that same bit of Space, are different also.
- As we consider concrete the physical distances, this make another argument for discriminating Space relative to Object 1 from Space relative to Object 2.

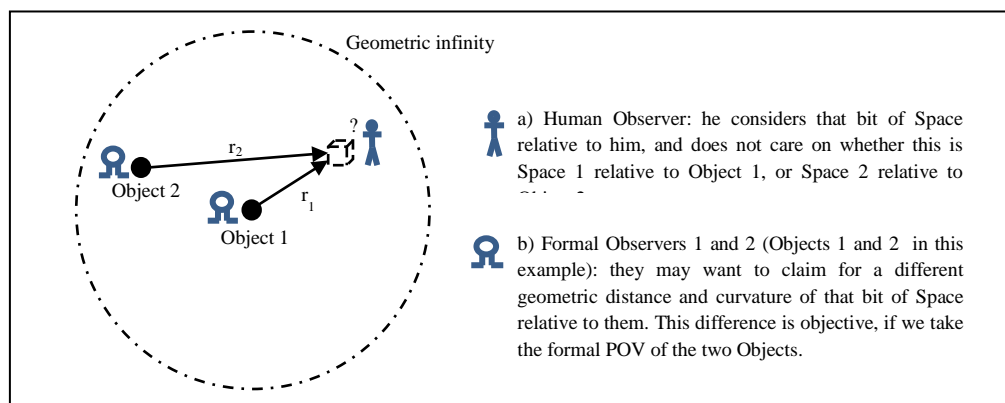


Fig. 3: Conceptualization of Space by a human POV vs. the POVs of two Objects.

S6. Preparing to extend our Point-like POV and Point-based Geometry.

Once we accept the idea that Space may be concrete, we can go a step further regarding the role of our particular Geometry in the whole play. In the very end, we are a concrete Object carrying around a particular POV. As long as we stay formal, we can rent our POV to another concrete Object as we did in the example above.

Here we take advantage of the idea that Space may be equivalent to a concrete Object, so we wonder on how it may work its POV if any. This sketches in Fig. 4, where we basically generalize our Point-like POV in another one having an inverse property:

- A Point-like POV, cannot determine by one single Observation whether an Object is Closed.
- We call Round-like its inverse: by definition, this new formal POV can make sure that an Object is Closed by just one single Observation.
- The Round-like POV is a particular Formalism which accommodates for Modeling Closed Objects: it basically translates this human idea to a formal Observer who had no additional capabilities beyond doing a single Observation at once.
- This comes from changing the Logic of our natural Point-like POV with regards to our picture of a Closed Object; this second formal POV complements the natural one, and we will use it to generalize our Geometry also.
- The whole concerns Observing-Modeling a Closed Object by a single shut: with regards to that, our natural Point-like POV is a NOT, whilst the new and barely formal Round-like POV is a YES.

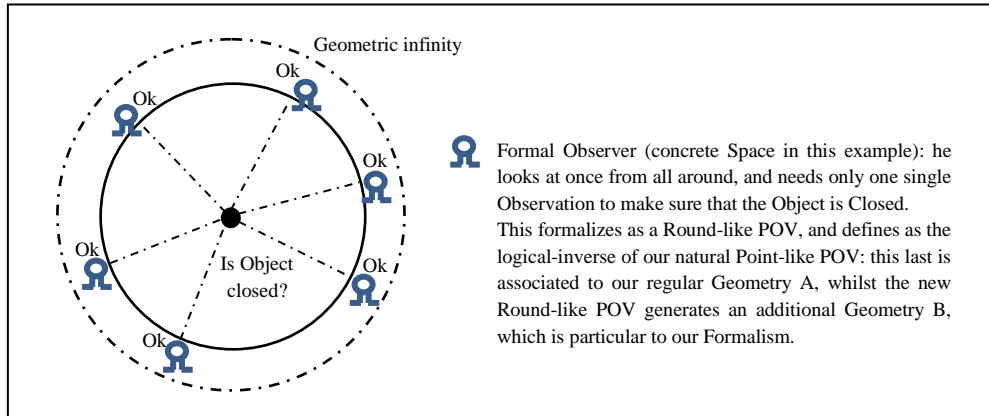


Fig. 4: Visualizing the fictitious Round-like Observer of the Model (Point-like-inverse).

S7. Picturing Space as a concrete Nonlocal Object.

Till now, we are tracking the idea that:

- Within a human Model, Space should be handled as a concrete Object; to the limit, any Closed Object should be Modeled as being complemented by an individual Space.
- The very different conceptualization we make of either an Object or Space, may come from the particular Geometry we use instinctively; we have just launched the idea of a Round-like POV to complement our natural Point-based Geometry.

S8. Thinking of a second Geometry B by just inverting the Logic of our natural Geometry A.

To proceed and generalize further, we start by noting that the two human Logics of Space and of regular Objects, basically work opposite way:

- All regular Objects are Closed (YES geometric boundary), and do not penetrate each other (they can NOT, be entered into).
- Space has NOT a geometric boundary (it Opens to geometric infinity), and it contains the regular Objects (Space can YES, be entered into).

Hence we attack considering Space, from now on, as a concrete Open Nonlocal Object: its Logic, if any, may be exactly the inverse of the one that we apply humanly to the much familiar Closed and Local Objects. We just say Logic A for the Local part of an Object, and Logic B for the Nonlocal part; for the rest, our Formalism will remain mostly symmetric on those two components.

Furthermore, we are arguing that having Local Objects in our human Model, actually comes from our particular Point-based Geometry and Point-like POV. Hence

we will consider an inverse-Logic Geometry, as it may come from our new and barely formal Round-like POV.

Within this Formalism, we define in general a Reversal the operation of inverting the Logic which we are working by. The second Geometry that we are tracking for dealing with the Model Space, will come out to be the Reverse of our natural Point-based Geometry and Point-like POV.

Hence we will call Geometry A the regular one for the Local part of an Object, and Geometry B its formal complement for the Nonlocal part. Both will reflect the two underlying Logic A and Logic B, where B is the formal Reverse of A.

- Sg. The inherent human Logic of a concrete Nonlocal Object that be part of the physical World.

To go another step ahead, we have now to make explicit the inherent human Logic of a concrete Nonlocal Object. By definition, its Geometry stay undetermined, and as human Observers, we are fully-blind on such a Nonlocal item. Our argument is that this discomfort, basically comes from considering the sole position of our particular Geometry A, which is Point-based and has an inherent Point-like POV. In the very end, we are a Closed Local Object who Observes Locally. The human Nonlocal, may just qualify as being physically out of reach of our Observing device.

Here we limit to the plain logical implications of an item that we pretend to be concrete and part of the physical World (e.g. a traveling photon), but that we, at the same time, call a Nonlocal item. The argument is widely general, but we remain interested exclusively in our idea of Modeling Space as a concrete Nonlocal Object: we only want to see whether this much basic arguing about the human sense of the Nonlocal, may provide some additional geometric-clues toward our Model Geometry.

We intend explicitly that our Nonlocal Object is concrete, so we basically say two things at once:

- As it is in a Nonlocal state, by definition we cannot detect this Object neither position within our geometric Space (as soon as we detect the Object in a geometric position, it becomes Local). The Object concretely exists, but due to the lack of any possible geometric information, the Logic is the one of a concrete item which is nowhere (or equivalently, which had escaped Geometry).
- As the Object is concrete anyway, and no Local detection can show differences regarding its physical Presence in that particular Point, the Object must be the same way and the same amount in any geometric position that we may want to check for it. Therefore, the Logic is also the one of a concrete item which is everywhere (or equivalently, which is ubiquitous).

Upon handling a Nonlocal Object by our natural Point-based Geometry, we generate an apparent contradiction, which is limited anyway to our own Geometric

picture of the Nonlocal state. After all, we accept that the geometric situation stays undetermined, and possibly ambiguous, by just our own definition of Nonlocal.

If we however look at the bare human Logic of the thing, we have two implications that may help our way to the Model. By applying our sole and usual Geometry A, we get that de facto, the two conflicting claims for a Nonlocal Object to be nowhere, and for it to be everywhere, become equivalent and cannot be discriminated any more:

- Both sentences are therefore correct, and taking the second one (geometric ubiquity), we have that a Nonlocal Object stays both in the position where we or another Local Object are at the moment, and all around us till geometric infinity. Thus, we find ourselves and any regular Object, to be immersed and geometrically inside such a Nonlocal Object. This matches the property of Space, and supports our idea that Space could be Modeled as a concrete Nonlocal Object (we are, of course, geometrically immersed into Space).
- The first claim above for the concrete Object being nowhere and having escaped Geometry (actually it has escaped our own human capability of detecting it geometrically), cannot be solved if we stay on Geometry A, and basically remains ambiguous: our natural Geometry encompasses the whole physical World, and escaping it, is not compatible with a concrete Object. Hence we will switch the emphasis onto the Logic, and correct such a claim by concluding that the Nonlocal Object has just escaped the Logic of our own Point-based Geometry. If so, we need at least a second formal Geometry where our concrete Object has finished into. Our quest for using our natural Geometry A plus some logical complement B, also relates to that.

S10. Practical rules for formal Objects coming from Geometry A vs. Geometry B.

We now consider real life and the many regular Objects which lay into Space. Based on our scheme, the first are Closed Local Objects, and we want to handle the second as a concrete Nonlocal Object. We have just concluded that by our human Logic of a concrete Nonlocal item, it is correct to say that such a Nonlocal item is geometrically ubiquitous. Hence it occupies concretely the whole physical Space within the range of the human Point-based Geometry.

Upon applying to the human Space (the item we are trying to Model this way), we have that a Model Space made of a concrete Nonlocal Object, would occupy the whole human Geometry A, and it would contain all of the other regular Objects. In such a logical-outcome we find no contradiction, and basically it corresponds to what we propose, i.e. that regular Objects, which are Closed and Local, stay inside another concrete Object (Space), which is Open and Nonlocal instead.

Hence we anticipate a few logical Rules which will support our practical handling of the Model Space:

- Closed Local Objects are Inner-type, and make an Inner Slab with regards to our Model Space (which is an Object also, although Open and Nonlocal).
- The Model Space is Outer-type, and it makes an individual Outer Slab to any regular Object (here we limit to the very elementary Logic of our elementary Objects, so that we consider just a trivial A-B equivalent of the well-known Point-Mass scheme).
- These two kinds of formal Objects, obey two distinct A-OR-B Logics which are logically-Reverse each other. This makes our formal Objects of a kind or another, to just behave anti-symmetrically with regards to our trivial Inner-Outer criterion: the Inners normally stay inside the Outers; the Inner makes the Closed Local part of an Object (solid core), and two of them cannot penetrate each other; conversely, two Outers cannot stay external each other (self-contradictory claim), so that they do superimpose geometrically.
- Therefore, the Model Outers make a Nonlocal blanket to any Model Objects, and all of them superimpose and confuse in a common Nonlocal Space (in Paper 2 we define a specific Merging technique, where we basically collapse-in-one two or more logical-components which cannot distinguish logically).

S11. Checking again the idea of an individual Space by the new perspective of the Model.

We now get back to Fig. 3, and double check there our idea of allocating an individual Space to any Model Object: our perceiving of that sketch has changed, now, since by then we explicitly Model Space as a concrete Nonlocal part which pertains to any concrete Object.

Once again, we focus on the bit of Space that we sketch in front of the human Observer. If we take the formal POV of two distinct regular Objects who look at it from two different geometric positions, we find no contradiction in associating a Space 1 to Object 1, and a Space 2 to Object 2:

- That same bit of Space is concretely different for Objects 1 and 2, as it has a different distance and curvature relative to them.
- By this Formalism, Space is now a Nonlocal Object, and Spaces 1 and 2 are for us the two Outer Slabs of Objects 1 and 2 (practical rules of S10 above); they are therefore of the kind that superimpose geometrically one another (or equivalently, they do penetrate as opposite to our Model Inners).
- The human Observer only can count on its personal one-way reading of that same bit of Space; moreover, both Spaces 1 and 2 make two Nonlocal Objects, and he cannot detect them Locally; this means that he cannot neither discriminate the two Spaces 1 and 2 of the two Objects 1 and 2.
- This holds for any regular Objects around him; hence the Model picture becomes the one of many superimposed Model Spaces in that same bit of

Space, whilst the human Observer always reads a single and undifferentiated Space in front of him.

On the whole, our claim for distinguishing Space 1 and Space 2 as the Outer Nonlocal parts of Objects 1 and 2, remains compatible with our spontaneous reading of Space, where on the contrary we apply our one-way individual POV, and perceive many solid Objects across the very neutral volume of Space. The point is that we normally disregard the POVs of the physical Objects, even if their formal quoting of the bit of Space which we focus on in the example, is objectively different.

At the same time, the argument shows that the human Observer could know the difference should he, by absurd, exchange and cross check this information with Objects 1 and 2. This Formalism actually wants to grab a working POV into the Objects, and see the implications that this may have on our human Model of the geometric Space.

S12. Quick illustration on how the Model works on the Model Space-like.

Fig. 5 gives another example of the practical handling of Space which we are thinking about. We compare two different criteria for generating a concrete Nonlocal Object similar to our human idea of Space:

- Fig. 5.a (left): This is a dummy Procedure which only counts on our human Geometry A. We imagine to get our Nonlocal Space-like by just diluting a concrete regular Object into geometric infinity. The Object Parameters dilute to zero, and this approaches vaguely our human idea of the Nonlocal: the Object is no longer detectable in any precise position, and any other regular Object stays for sure into it. We however lose any human track of the Object: the conceptual picture of the Nonlocal that we can draw by our Point-based Geometry A, is very poor and basically undetermined.
- Fig. 5.b (right): We associate to any Model Object an elementary A-B Logic and a composite A-B Geometry: the Local solid core works by A, and there we quote regularly the distances till geometric infinity. Beyond the Interface of Object 1, its B-Geometry become Nonlocal and emulates the human sense of Space: the solid Local core of any other Object 2 stays into it. The two Geometries we use are logically-inverse, so that they have neither geometric Points nor geometric-features in common: operatively, they do not see each other, so we could not describe an item B by our Logic-Geometry A and vice versa. The overall Geometry of the A-B assembly matches the regular one, but the Nonlocal parts of our Objects obey Logic B, so they do not fit logically with our human Geometry A. Say now we Model Space as a concrete Nonlocal item, and adopt such an artifice of two logically-inverse Geometries. Our formal Space-like remains consistent with the usual picture, and such a concrete

Nonlocal item does not truly escape the overall Geometry of our Model: it still fits inside Geometry A, and just escapes the Logic of Geometry A. Our Logic-Geometry B makes nothing but a working tool for the missing part, and it tracks concretely such a presumed Nonlocal item all around the regular Objects. We will also see that it is a very handy and intuitive tool: it basically comes from a trivial inside-out Reversal of our Point-based Geometry A.

Our Model picture of Fig. 5.b does not contradict the ordinary one. Thus we keep on tracking the Model Space as a concrete Nonlocal item. First, we will generalize our regular Geometry A, and based on that, we will work out a suitable logical-Reverse, that then we will exploit as our second Geometry B for the Nonlocal.

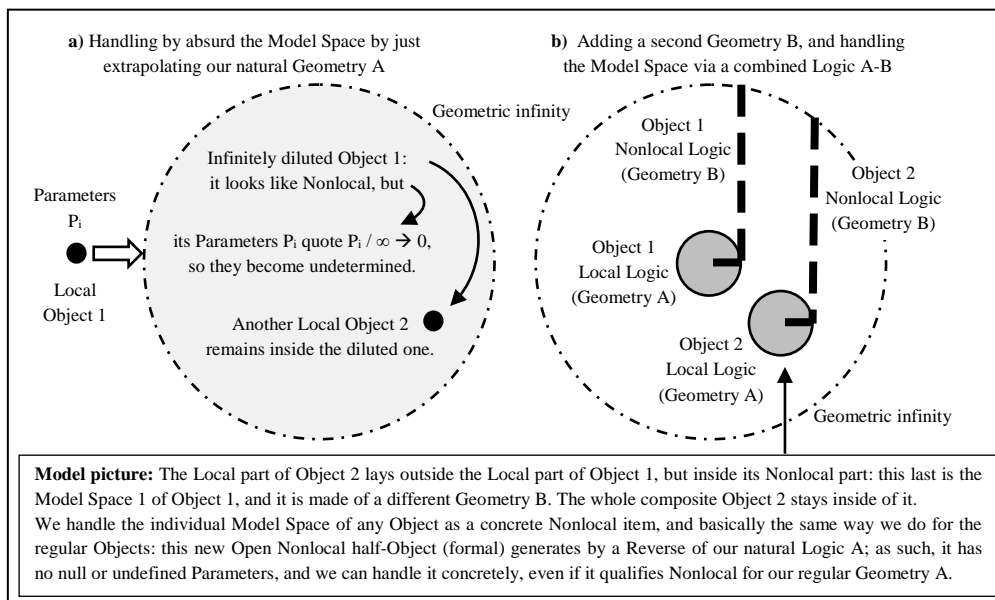


Fig. 5: Quick check on how we intend to handle the Model Space by a second Logic-Geometry B.

S13. General assumptions beyond the idea of standardizing the elementary Geometry.

Before we continue, we have to ask why we should complicate further our human Geometry. We mean adding a second Geometry B, and thinking of an individual Model Space for any regular Object we see around.

To defend our proposal, we need to work further on the formal POV we want to take. This requires comparing our geometric perceiving of the World whit the one, if any, that an Object may have from his own individual Point-Of-View. We will give an explicit mandate to our Objects to Observe-Model on our behalf. This will come by

two formal POVs: the first one is identical to ours (Logic-Geometry A); the second one is a fictitious inverse, and we will call it a Round-like POV (Logic B and Geometry B).

By taking such a Modeling position (POV into the Object, and using a double A+B formal view), we want to simplify and to standardize our Model Geometry. This is nothing but a generalization and a complement of the natural one: our daily perceiving of the regular Objects would not change because of that, and our Model would not tell us much more than that. Hence the whole remains a human Model same level of the natural one (provided it confirms to be equivalent, and to give the same results on a given physical situation).

Nowadays we know that the boundary of a physical Objects is made of an electron cloud, and that the situation there is not so sharp. This is not a good argument for us, however, because an electron orbital is quite a complex system, whilst we are searching for just an elementary Logic which could start our equivalent Model of the Objects.

Hence we stay on our brutal scheme, and in any case consider that a regular Object is Point-Mass with regards to geometric infinity. By our Formalism, an elementary Closed Local Object is, first of all, made of a trivial separation of the geometric Space into:

- An Inner part making the Object.
- An Outer part making the Model Space.
- Some Interface in-between the two.

Our proposal basically comes from the idea that we, as humans, have the same key-Geometry of a Closed Local Object (Fig. 1). Then we suspect that our natural Point-based Geometry and our attitude of staying outside the Objects, tends in fact to highlight their differences in shape, and their messy geometric spread across Space. This naïve picture is correct and will continue to hold, but here we want to gain another elementary perspective from within the Objects. This formalizes and applies practically by the following Steps.

S₁₄. Moving the POV into the Objects, by using first our natural Point-like POV.

This Formalism requires that our own human POV enters a regular Object, and that the Object Observes-Models another concrete Object on our behalf. The idea is to have a tiny camera in it, that we can visualize for instance right into the center of Mass of the Object.

The first POV we make to play, is the regular Point-based POV that we use daily (A-type). The next passage as of S₁₇, will bring into play our fictitious Round-like POV (B-type). Operatively, the B will work by a straight antisymmetry, and we will handle it plainly the same way we do for the A.

Fig. 6 summarizes our first move: there we think of being within the Object, but still we use our regular Point-like POV (A-type). At this trivial level, the inside-out perceiving that the Object would gain of his own situation, is much the same of ours: he could pick up any one of his Inner geometric Points, and set it as a suitable Unambiguous origin to start his exploration; upon proceeding from that geometric Point, his sight-like will go through a concrete Inner body, an Interface where the conditions change markedly, and a second geometric body which is Outer to him, and which goes unbounded till geometric infinity.

Therefore, such a probe-Object could confirm the same geometric organization of the physical Word that we see humanly: this is normal, as the POV is the same, and we too are a Closed Local Object of the same kind of the one we are considering here.

Should however our regular Objects share and discuss this geometric information, they all would agree that the key-scheme of a Local Inner part with a Closed Interface, and of an Open Outer World, is never disobeyed for all of them. They all start Locally onto some Point-like origin, whilst the surrounding World ends at geometric infinity. They show many individual differences, but this very basic geometric organization is common to all of them, as they are by definition Closed and Local.

We consider this property a unifying trait of all of the regular Objects as we intend them humanly. Hence we assume explicitly that such an organization is not just geometric, but that it tracks a Logic which is inherent to the human Observing-Modeling of the Objects. All of our Model Objects are therefore assigned two inherent bounds, which act as two geometric end-stops and consist of:

- A. Some Inner Point-like origin, which is a geometric Point no matter how arbitrarily we choose it.
- B. The one that we identify humanly as geometric infinity. It is actually common to all Objects, in such that neither their formal sight-like, nor another concrete Object, can escape such an infinite distance.

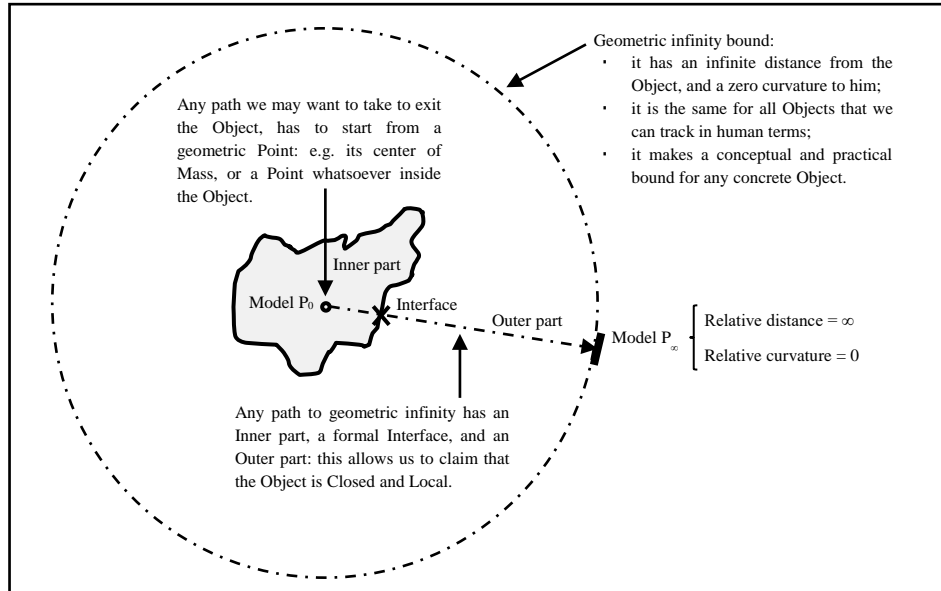


Fig. 6: Adopting the POV of a regular Object, and looking for a common geometric organization.

S15. Working by the Model Poles.

Our two geometric end-stops A-B make the logical Borders of our Model, and we associate to them two Model Poles:

- A. Pole P_0 is the one which plays both the formal origin and the Inner bound of a Closed Local Object. It stays where the relative distance from the Object's POV makes zero, and it tracks the regular A-side of our Formalism.
- B. Pole P_∞ , makes its logical complement: it stays where the distance from the Point-like POV of that same Object become infinite. We intend it to be a logical and practical Border of the Outer Geometry of any one of our Model Objects. By a trivial antisymmetry, Pole P_∞ makes to work the B-side of our Formalism.

Pole P_0 matches our regular idea of a geometric Point, but we mean it to play logically as a concrete limiting state where the Geometry of an Object cannot be stretched anymore. We think formally of a condition of Wide-Shut Geometry, whilst its complement P_∞ makes a condition of Wide-Open Geometry. Both wordings refer to our Point-based human habits: the Model by itself, stays very equal and symmetric on them (details by Paper 2).

In short, the P_0 is nothing but the geometric origin where we set our regular Point-like POV; in the 3D, it may for instance visualize onto the center of Mass of the Object, and we have one for any Object. When we need to quote the size of an

Object, or to describe its geometric Relationship with another Object, we use our P_o regularly: we just think of having a regular human camera in it, but for the rest the measuring scale is the same, and it reads in regular-meters as usual.

Till now (Logic A= Local), we have not changed that much our natural picture of the Objects vs. Space. The next step is to find another viewing-like which remains handy (Logic B= Nonlocal), and that we can couple to the regular one, so that the two work properly together (combined A+B viewing-like of our formal Objects).

S16. Visualizing the picture of our Model Objects in terms of our Model Poles.

Our definition of the Model Poles is barely logical, it is centered onto any single regular Object, and it is very neutral with regards to any preexisting reference frame. Our elementary Logics are deprived of Geometry, and just play in parallel: they do not interfere with our regular and well-familiar Geometry. On the contrary, the whole Formalism is geometrically-blind and useless on its own: if we really want to catch some interesting, we need a continuous mapping-back of the Model into the 3D.

To check and allow our formal picture to settle down, we refer to Fig. 7: it illustrates a dummy Point-Mass Word made of N Objects. Their geometric centers stay basically free, and freely float in the Model Space. Later on, we will be able to emulate the relative Moving of the Objects as usual. Their solid and Massive-like cores stay around their individual P_{oi} , which make the local A-side of any one of our Objects. The very long run from each Object-Interface to our geometric infinity P_∞ , makes the individual Nonlocal B-side of our Objects, and basically emulates our natural feeling of the geometric Space.

By definition and practical evidence, our geometric infinity P_∞ can be just one for all the Objects we can ever conceive humanly into the Model. Within this very particular two-Poles picture, all of the Model Objects have a common anti-origin into the opposite-end element that we associate to our Model Pole P_∞ . There is therefore an inherent and much evident asymmetry of our two Border Poles with regards to the human 3D, and this evidences into the sketch:

- All our Model Objects share the Logic A of Pole P_o , but this remains formal, and does not imply a geometric match. On the contrary, their solid cores always keep apart one another. They make the logical Inner of the particular Object, and two Innere cannot penetrate each other. This comes from the idea that the individual Inner part of an Object, is always the most-internal toward the P_o (Wide-Shut Geometries): one most-internal part of an Object, cannot be more internal than another most-internal part of another Object. In short, the P_{oi} of an Object, cannot stay in the solid Local core of another Object.
- Toward geometric infinity, all our Model Objects share the Logic B of Pole P_∞ , and there the match is both formal and geometric. Hence we can see our Model

Objects, or more properly their Nonlocal part, as if they all were attached to a common anti-origin which actualizes onto our second Border Pole P_∞ . We have no straight visualization for that, but we basically will play this new Pole in the same way we play its regular P_o Twin. The operating Model is very equal and user-friendly on that. Moreover, it does not require at all to visualize the P_∞ , and by our not-to-scale sketches, we handle it concretely as if it were a regular P_o . By our Nongeometric choice, the P_∞ actually becomes a Point-equivalent.

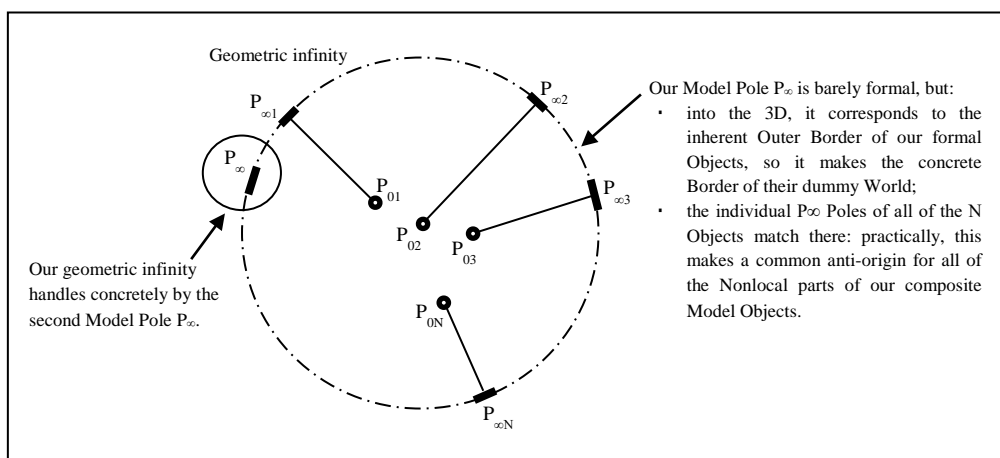


Fig. 7: Dummy Point-Mass World of N Objects based on our composite A-B Logic-Geometry.

S17. Extending our natural POV by using a formal viewing-like by two Poles at once.

We get back to Fig. 6, and there we maintain our regular perceiving of the thing: solid core of an Object, and regular Space around it. The Logics of the two Poles that we have just defined, seem to work opposite way: onto our Model Pole P_o , the distance relative to P_o is 0, and the relative curvature is ∞ ; onto our Model Pole P_∞ , the distance relative to P_o is ∞ , and the relative curvature is 0.

Then we switch to Fig. 8, and establish a symmetric agreement. From now on, we quote and organize our Model Geometry according to our two Poles P_o -AND- P_∞ . In short, this makes a concrete and very straight double-quoting from both ends of the Model Field (Nongeometric run P_o - P_∞). We assume that both Poles carry their own formal POVs, and we prescribe the one onto P_o to be Point-like, and the one onto P_∞ to be Round-like (Reverse-Twinning artifice):

- Till now, we just had one POV (the P_o), and we referred spontaneously the P_∞ to him. Now we adopt a floating system, and take two independent geometric-like measures from the two. The only requirement is that the two measures stay Twinned by the logical-Reverse we assume into the two POVs.

-
- First, we maintain our regular Point-like POV on the A-side toward P_o (say from the center of Mass of an Object). Our Pole P_o works as usual, and he quotes straight on the distances from himself in regular-meters. This expresses by a first geometric-like Scale λ_o [m], and makes a first Nongeometric Slab of the Object into the Local.
 - For our opposite Border-Pole P_∞ , we prescribe a strict operating symmetry, and disregard the human idea that the two Poles are very different (Nongeometric criterion, and Nongeometric handling). This second POV supports our Logic B for the Nonlocal, and operatively it corresponds to the zero of the human curvatures. We do not use this wording though, and just measure the thickness of the B-Slab by a second geometric-like Scale σ_o [1/m]. This second Model Parameters is very neutral and same level of the λ_o . The P_∞ quotes the σ_o as a regular distance from himself, and just uses the inverse-meters because his measuring-scale works like that (Twinning of the two Scales by a Reverse-Logic criterion).
 - By the profound Model, the two Reverse Slabs that extend λ_o from P_o , and σ_o from P_∞ , are perfectly equal. For the moment, we do not care on whether they are Local vs. Nonlocal, i.e. A-type vs. B-type. Our composite elementary Object just quotes $[\lambda_o; \sigma_o]$ into the formal system. We handle both Model Parameters as two geometric-like Scales, basically disregarding at this level which kind of Logic-Geometry they are of.
 - As we remain a human-level Observer-Modeler, we stay concretely on the A-side. By our regular Point-like POV, the Twinning of the two Model Scales expresses by $\sigma_o = 1 / \lambda_o$, or equivalently $\lambda_o \cdot \sigma_o = 1$. The two Scales are however Reverse and logically-incompatible, so that this does not make a true mathematical Rule into the system. Such a Rule actually plays as a formal proportioning of the two Model Slabs, so it works only Nongeometrically into the system.

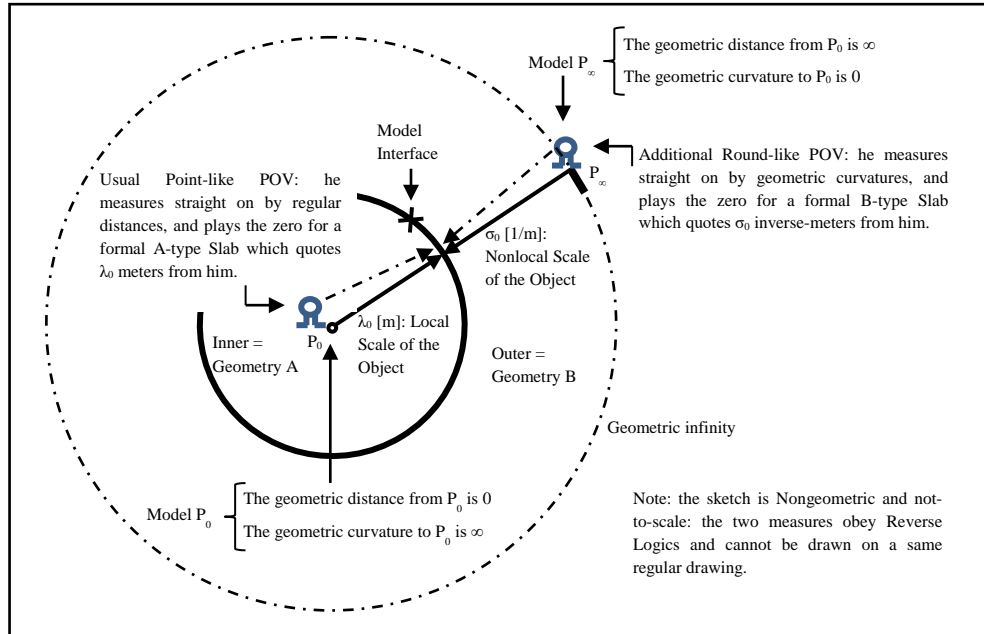


Fig. 8: Sketching the pivoting system for quoting by two Reverse-Twinned POVs in P_0 and in P_∞ .

S18. Managing mentally the B-side of the Model.

We do not need to visualize such a supposed Round-viewing of the B-side, and actually we could not. For how strong we think of, it comes out to be an exact direct-copy of what we see normally (no-strange-things criterion). Let's say we stay in the center of Mass of our head, which makes our human P_0 (Wide-Shut Geometry). Let's say also that from there, we see the regular Geometry to Open all around till the formal infinity that we word P_∞ (Wide-Open Geometry). We conclude that in practice, our human Geometry Opens progressively from the P_0 to the P_∞ .

If we now think of the P_∞ , we wonder of a strange World where the Geometry outside of us restrains toward the particular Object we are looking at. By Fig. 8, there seems to be a huge Round-eye that all encompasses. What is worse, is that he thinks and pictures his own inverted World in terms of curvatures.

This is, however, because we imagine jumping on the B-side, but we remain mentally into our usual A-side. Should we really become a P_∞ , and take his POV and his own formal-view, we would operate by our plain definition, and just look straight-on from there, so that nothing happens. The viewing-like of the P_∞ , is inverted and Round-like with regards to ours. If we now imagine switching $P_0 \rightarrow P_\infty$, we invert our own Point-like view, and watch a Round-Word by a Round-like POV. This makes a regular Word once again, and thus a very normal perceiving of it.

The Logic of the Model is very straight, and it gives no escape to our imagination. We basically stay on one end of the Field, and say that on the opposite end, the Logic Reverses. Should we jump on the opposite end, we would repeat identically that we stay on one end, and on the other end the Logic Reverses. The Model do not actually allow to conclude whether we are a P_o or P_∞ , neither we can say if there is a true difference between the two.

Our Modeling artifice produces an exact-copy of the A-Reality that we call B-side, but the two are so identical that we cannot discriminate. Basically, the Model Reality stay one, and exactly the way we know. Inside the Model we work Nongeometric, and there we think of just two formal Slabs which are Local-Nonlocal. They quote plainly $[\lambda_o; \sigma_o]$, which comes concretely in regular-meters and inverse-meters. That is why we prefer not to use the distances-curvatures, and adopt the equal wording of geometric-like Scales on both sides of our Formalism. The two Model Slabs, basically make a false 1D quoting of the Local and Nonlocal parts of the Objects. In any case the assembly is Nongeometric, and more properly it makes a composite equivalent of the Point-Mass scheme, where the two Slabs qualify elementary, and are single-valued throughout their lengths.

The two A and B sides works exactly the same way. In practice, we handle Nongeometrically our P_∞ as if it were a regular geometric Point. We just know that it is of a kind which is different of his Twin-brother P_o . We think in terms of Wide-Shut vs. Wide-Open, only when we need to map-back the Nongeometric Model picture into the 3D. When we think 3D, we in fact express a human A-type standpoint, and at that level it is correct to make the difference. At that same level, however, we are already out of the Model, and we basically got back to thinking geometrically as we do normally.

Our human notion of the Round-like, only comes from using our one-way human Geometry: it is not at all a Round for our Model Pole P_∞ , and for him it is as straight as our regular distance. Besides that, we still have to work humanly on just the A-side of the Model. For mapping-back the whole into the concrete 3D, it is sometime practical to say that, by our A-type language:

- Our second Pole P_∞ supervises the same World of P_o , but by a different tool (inverse Logic).
- His human feeling of Geometry, restrains toward the solid core of the Objects, and always ends into a geometric-Point.
- This end-stop is of the kind of the P_o , and it makes a Logic-Reverse of Pole P_∞ himself.
- The curvature there becomes infinite (Wide-Shut Geometry condition), and by no way the P_∞ could operate beyond that limit.

- This is the homolog of when we say that the view-like of Pole P_0 , cannot extend beyond the formal geometric infinity of our P_∞ . Our second Pole P_∞ , must watch toward the P_0 , and he cannot see-like farther than the P_0 Border.
- In the very end, both sights-like of the P_0 and of the P_∞ , are plainly straight by themselves. The second, however, becomes equivalent to a curvature when we think of it in terms of our natural geometric habits.
- By the P_∞ , the formal Space-like all remains inside of him. By our own individual P_0 , the formal Space-like all remains outside of us.

When we however work by the false-ID of the profound system, and focus on its Nongeometric run P_0 -to- P_∞ , we do not have such a distinguishing, and just see two equal Border-Poles onto the two ends of the Model Field: the two are mutually-Reverse, and could not define otherwise. By our Formalism, they make a barely-logical inherent-pair (details by Paper 2).

We also note that we established the P_0 and the P_∞ as the two self-evident Borders of our Nongeometric Formalism. This means that the Model Field of any Model Objects, always stays in-between them. This reproduces the concrete limits we assume to hold in real life for the physical Objects: none of them can be compressed more than a P_0 status, neither it could expand concretely more than a P_∞ status.

In any case, the A and B sides obey two distinct and incompatible Logics (Reverse-Twinning criterion). Our two halves of the Objects, neither combine nor superimpose geometrically as we mean in a human way: the two basically do not see each other, neither could they just because of the Logic we Modelers use.

A practical advantage is that we do not need to compete any more with geometric infinity. Its Logic-source actualizes onto our Pole P_∞ , and our formal σ -quoting from there always remains finite. An inconvenient is that we have to manage two POVs at once to quote our Objects. They produce two independent quoting respectively from P_0 and from P_∞ , so this makes a pivoting system which centers onto any single Object, and which is individual to it. Into the Model, we have no preset reference frames, and no preset human Geometry. Our Formalism is geometrically-blind by itself, so that it must couple at any step with the regular 3D viewing of the physical situation we want to Model (practical examples and calculations by Paper 2).

S19. Conclusions on this first list of instructions about the Geometry of our formal Objects.

Willing or not, we remain a Point-like Observer in any case. Furthermore, we note that we shaped formally (and we did fictitiously) the particular POV and the particular Pole that we decided next to word Round-like. This makes by evidence a human Model same level of the regular one, and what we are attempting here has no special meaning by itself. We actually made this step for just gaining an additional geometric

perspective on the Objects, and then to prepare a conceptual tool which could help handling practically the Nonlocal. Up to this this point, we covered just a few hints concerning our idea of describing formally the Objects by a Twinned Logic-Geometry made of an A and of a B part. Hereinafter, we will adopt this same double-POV made of our two Poles $A=P_0$ AND $B=P_\infty$, to build and operate practically our first prototype of an elementary Model Object (Section 4). We have however to stop and see before another founding block (Section 2), as this second argument too will help shaping our Model as general and straight as we can.

II. FORMALIZING WHO IS OBSERVING WHAT IN A TWO-WAY SCHEME FOR MODEL RELATIONSHIPS.

As humans, we constantly Observe and Model mentally the physical Objects. This ranges from avoiding them when we walk, to some very advanced Models for describing their inherent structure and behavior.

We now take an independent detour from Section 1, and focus on basically two things: the subject that we really intend to be operating the Point-Of-View (POV); the Logic of the how and where our human Observation takes place.

We have for that a sound and well-established conceptual agreement, but this may contain some ambiguities that we need to make explicit below. This second argument will add a reason for having a formal POV directly into the Objects, and points to some pragmatic complementarity of the two Observing positions that we will word plainly as Absolutism and Relativism. This is nothing more than a practical decision-tool, and it limits to the particular Formalism we are going to work with:

- The Model Absolutism, is when we Modelers decide to set the POV into the Object.
- The Model Relativism, is when we Modelers use a POV outside the Object.

S20. Inherent Procedure and logical implications of the human Observing-Modeling from the outside.

We generally Observe an Object to associate an objective Parameter to it. We basically make to play three things: the owner of the POV who Observes; the Target which the Observing POV points to; the two geometric positions that the POV and the Target hold during the Observation.

The Observer-Observed Relationship is very trivial, and there are no many options we could explore. We accept here that the several properties and attributes of an Object, make a given set of objective Parameters (e.g. a given size, a given weight, a given color and so on). We generally want at once: to allocate these Parameters to the Object, so that by no doubt we act as the sole Observer-Modeler of the play; to quote

them numerically or in a proper equivalent way, which implies establishing an objective Relationship with the Object itself.

We normally handle the problem by making us to play the Observer-Modeler (we are the subject who operates), whilst the Object is operated upon (it stays idle as it is by evidence). The POV that we use and apply onto the Target is ours, and it stays geometrically outside the Object. Then we say that an Object has got a given Parameter, and we of course intend that it is Proper of the Object and objective:

- Here the Object also plays as kind of subject, or at least this sounds like in our spontaneous wording. The whole is equivalent to saying that the Object Autoobserves himself, and concludes that he truly has got that precise Parameter. If he had not, we neither from the outside could Observe something true regarding that precise Parameter. This holds independent from any possible distorting caused by the human scheme we apply. As a matter of facts, we word the whole as if the ultimate action of possessing a Proper Parameter were acted prior of our Observation, and thus necessarily by the Object on his own. We take for granted such an underlying Logic, and by no doubt it aligns with our daily and scientific evidence. The point is not that this is wrong. On the contrary, it is absolutely correct and concretely proven within the frame of our regular and systematic Observing-Modeling of the Objects. That is why, in the very end, we can claim that an Object and its Parameters are true and objective. In a word, we cannot deny our human idea that an Object possesses some concrete quid which is true and objective. This is what traduces next in our objective Parameter as we mean humanly.
- At the same time, it is clear to us that the only subject, here, is the human Observer-Modeler who stays outside the Object, and that he quotes that given Parameter of the Object relative to him: an Object could not tell us if it is of a given size or of a given color. It is also evident that its Parameters, although objective, have that precise meaning and that precise measure only for us.

S21. Flagging out Absolutism-Relativism as a logical-pair, and working practically with it.

There is therefore some mixing of roles in our plain wording of the thing. To save the who is doing what, we switch to a somewhat formal agreement. We base on the ideas we presented above for the Objects in general, but such a second issue is independent by itself. It basically involves a new entry, that we formalize in general as the Model Relationship between any two Objects. We still assume that the human Observer-Modeler makes a Closed and Local device, and that his Geometry is same-kind of the many regular Objects he handles conceptually.

We still wonder on how we could start our Formalism, thus we stay very basic and concrete. We just focus on where we really want to set our POV when we deal

humanly with the physical Relationships. In the very end, any Relationship is made of two Objects, and the very particular Observer-Observed pair that we establish into the human Observing-Modeling, is made of two Objects also. Hence we think in general of an Object who Observes formally his Target, where the Target is another Object which makes the concrete opposite-end, and the conceptual partner of that particular Relationship. In either case of two Objects whatsoever, or of one Object plus a human- device, we only have two options for placing our formal POV:

- We say Absolutism, when we set the Model POV into an Object. As a matter of fact (and willing or not) we will have to rent our human POV to the Object, and make it sort of subject on our behalf. We explicit this point by the word Proper, and count it to be a logical-status of the Object (i.e. not just a geometric issue): we agree that the ultimate form and the quoting of that given Parameter, actually come from the imprinting we give to our human Observing-Modeling scheme; however, we positively assume that an Object in its Proper, truly possesses that Parameter. Operatively, this means having sort of static POV-camera on the inside of the Object. By definition, such an internal formal POV is stuck onto the Object, and it is always static to it.
- Conversely, we say Relativism when we, in general, operate a POV on the outside of the Object. A fair example is our daily sight of the many regular Objects around us. The natural position we take when we just express the word Object, classifies Relativistic by our Formalism. We always Observe-Model the Parameters of an Object based on our own POV, which is outside of the Object and inside ourselves. Our human body is a Closed Local Object, and it cannot penetrate the other Closed Local Objects we Observe. Taking an outside Relativistic POV, is inherent to the human Observing-Modeling of the regular Objects. The only point we want to make explicit here, is that the whole implies a concrete Relationship in-between us, who are an Object in any case, and the Object we have on Target. We may also wonder on whether playing the human Observer instead of being the Object which is Observed, is by itself incidental and of little relevance to our Model. The idea we launch here, is that our human Observing of the Objects, may make just a very particular case of the physical Relationships in-between any two Objects. If it is so, it may be worthwhile to generalize quite an intuitive hint on the way to our Model.

S22. Assuming that our Model Absolutism-Relativism is inherent in our practical reading of Reality.

We always look at an Object outside of us, and via some concrete Relationship with it (sight, touch, measuring instrument). Our human Observing-Modeling, always starts from some Relativism. At the same time, we cannot deny Absolutism, or the picture

we make of an Object would be just a mental artifact, and this contradicts real life. Hence we assume:

- As a matter of fact, Absolutism and Relativism work together and are inherent to the human Observing-Modeling: our picture of an Object, always arises from a mix of the two. Our human describing and quoting of an Object, actually counts on those two distinct but somehow Twinned Logics. This makes another trivial Reversal with regards to the particular problem of setting the POV either inside or outside the Object.
- This simplify our practical problem of quoting an Object: we can count on both Absolutism and Relativism. The first implies an additional formal POV into the Proper of the Object. The second conserves our natural attitude, and consists of a regular human POV where we set ideally, and Observe the Object from the outside. The key task of our Model, becomes the one of managing formally and practically those two POVs. We will have to find the right Relationship between them, and to calculate our relative Parameter based on the Proper one.

We make explicit our scheme by formalizing the Model jargon:

- The POV who plays the Observer, directs his Target view toward the Parameter that he wants to quote. The second POV that we add formally into the Proper of the Object, keeps his eye-like onto that same Parameter, and the two work together.
- Our task is to operate the two POVs, and to establish the relative value of the Parameter on Target: this is what the outside Observer sees-like and calculates into his own Target view of that Parameter.
- Such a scheme is so basic, that we assume it to apply not only to the particular case of when we look at an Object in human terms: we are an Object nevertheless, and geometrically we are same level of the one we observe. Hence we extend the idea, and use the same formal scheme to calculate any two-way Relationships in-between any two Objects.
- The relative value of the Parameter that is on Target of an outside Observer, will always originate from the Proper of the Object. Down there, we set our supporting Proper POV and we assume to know the original value. Next to it, the relative value of that same Parameter, is handled formally by the Target view of the outside Observer, which is a different Model function. Such a relative handling through the Target view, will depend in turn on the concrete Relationship that the two Objects have at the moment.
- Such a formal Observer-Observed pair is much neutral and two-way by itself. The Model can freely choose which is the POV who Observes formally, and that gets automatically supported by the other Proper POV into the other Object on Target. By our Formalism, the two POVs qualify same-level, and are

fully interchangeable with regards to our problem of calculating Model Relationships (details by Paper 2).

S23. Illustrating the idea by thinking of when we quote the Mass of an Object.

A fair example is when we say that an Object has a Proper Mass. This holds because we always quote that Mass when the Object is static to us, which is a particular case. If the Object Moves relative to us, we see the Mass to change, and have the practical problem of deriving its value in the new situation.

Our quoting of that Parameter, depends on the Relationship we have with that Object at the moment. In any case, we say that the Object conserves his Mass in his own Proper. Once again, this is valid because we imagine an ideal Autoobserver to stay stick-static into the Object. This basically emulates and resets the same Relationship we have with that Mass when it is static to us.

S24. Assuming a self-standing scheme for the elementary Relationships in-between any two Objects.

We may conclude that in general, any Observer-Observed Relationship is a pivoting system, with no fixed reference unless conventional. Our human idea of a physical Relationship, actually needs just a couple of items to be sound and to operate practically. They are a concrete Object, and a concrete Observer, where the second is an Object nevertheless:

- We basically extend this same elementary scheme to two Objects whatsoever, where we set two operating POVs on our behalf.
- The third element which we are interested in, is the physical Relationship between the two Objects. Throughout our Model, we assume it is objective also, and basically same level of concreteness.
- The Logic of the situation is self-standing, and we do not need any preset geometric frame. We work by our two-Objects-two-POVs system, but keep track in parallel of the true geometric frame to map-back the results into the 3D.
- Into the Model, we stay Nongeometric, and write a set of logical Rules to emulate the Relationships. Such a set will depend on the physical situation we want to reproduce (details by Paper 2).

S25. Managing mentally our particular idea of the Model Absolutism and Relativism.

Our two Model wordings of Absolutism and Relativism, do not stay in the true thing. They both, and such a presumed Twinned Logic, rather seem to be part of our human strategy for reading Reality. This is nothing but pragmatic, just because closing either channel would keep our mind much away from real life: turning off Relativism, would

make us mentally-blind on the surrounding World; denying at least a bit of Absolutism, would mean that our knowledge of the Word is just an arbitrary human construct.

Furthermore, these two words are very specific here, and we do not mean something which is just positional or geometric. The two involve some precise Logic of the Relationship between two Model Objects, or more in general between the Objects and the POVs. The underlying scheme is very trivial, actually:

- Our Model Absolutism, also means a Relationship of an Object with a POV which is Internal to it. This implies a YES-Logic, where the POV basically matches the Object.
- The Model Relativism, is when on the contrary the Relationship is External. Hence it proceeds by a NOT-Logic, where the POV is distinct from the Object.

Once again, we do not care of the formal words that we Modelers auto-produce. Instead, we limit to exploit practically our Model definitions of Absolutism vs. Relativism. We need them for just classifying which part is what in our Formalism. In Section 3, we also will apply such a discriminating tool to our natural sense of Time and of Space. This will help making a much pragmatic decision on which Model Time and which Model Space we really want to pick up and to retain into our Formalism.

S26. Extending the two-channel Modeling scheme based on Absolutism and Relativism.

Our Formalism adopts a very particular Procedure for Model Relationships. With regards to our natural Observing-Modeling of the Objects, we change two points: we Modelers set the POVs into the Objects; we want to describe the physical Relationships by aligning with the Logic of the Objects.

Basically, we accept becoming blind-like regarding Geometry, but we attempt entering the system. As we operate humanly, this does not truly attain the system, and just produces another particular human Model. It basically generalizes the much familiar idea of Observing-Modeling an Object from the outside. We also try to get out of our instinctive attitude toward the physical Objects.

Paper 2 gives a possible step-by-step formulation of the whole. In the while, we propose the flow sheet of Fig. 9 as a reasonable homework to illustrate some key features of the Model. The Levels a to f summarize our progressive switching out from the regular one-way regarding of an Object. Hence we enter step-by-step into the idea that any two Objects make an equal pair, and entertain one or more mutual-Relationships:

Level a illustrates the starting criterion. We accept that whenever we Observe-Model an Object, our Model Absolutism and Relativism activate and play together. This implies having a second formal POV into the Target, and we use it explicitly to describe the Proper of that Object. We assume in general that

within the human Observing-Modeling of Nature, the Parameter and the POV make an inherent pair. Whenever we need to quote a Model Parameter (either Absolutistic or Relativistic) we always need to associate a concrete Model POV to it. If the POV is inside the Object, the reading and the Parameter qualify Absolutistic. If the POV stays in another Object, it produces a quoting of the Target which is Relativistic.

Level b focuses on our natural attitude in looking at an Object. Our point is that the human Observer basically makes another geometric Object of the same kind. We see no reason for his POV to be structurally different from the Proper POV we admit into the Target. Furthermore, it is clear that a human just makes an abstract reading of his Target, but in real life, this implies some concrete Relationship between the two. We normally intend that such a concrete Relationship is one-way only: we read the Object, and it does not read us. By the Model, we actually suspect of such a conceptual asymmetry: in any case we are in the context of a concrete Relationship, and we basically assume that it reads one-way just because it makes a particular case into the general system.

Level c attempts grabbing another aspect, and we regard the scheme above in terms of the concrete Geometry of a human Observer vs. an Observed Object. Once again, when a human Observer Targets a regular Object, his geometric perceiving tends to configure asymmetrically. We do not consider that much the Geometry of our own body, and basically feel that the Objects, in fact, lay a given distance away from ourselves. The emphasis, both geometric and conceptual, stays on the Objects around us. We pay little attention to our role of Observer, and we implicitly feel it is central.

Level d switches to the much equal and abstract feeling of the Model. Here we begin to move from the idea of Observing humanly an Object, to the one of two Objects who Observe-Model each other. Our Formalism conserves the human picture of Level c: any one of our abstract POVs, is central when he Observes-Models the World (this is practical to manage mentally when we work by the Model). In any case we remove the asymmetry we noted above, and focus now on just two abstract Observers: a Relativistic POV with his Target view toward the Target (left); a Proper POV with a Proper view into the Target itself (right). We only have two bare POVs on board of two Objects, and went to the point where the one on the left has a Target view, and the one on the right has a Proper view. As the two cannot be different, we generalize and assume that both POV have both a Target and a Proper view. This is another reason for assuming that Model Relationships are always two-way and symmetric.

Level e formalizes our findings (Step 1 geometric): we always work by two equal POVs on board of two equal Objects of any kind. When we handle Model Relationships, our formal Objects 1 and 2 make a self-standing and inherent pair. The two and their POVs play both the Observer and the Observed on our behalf. Operatively, we imagine hiding into either Objects, and from there we quote the other-end partner. At an elementary level, our Formalism identify two positional Relationships in the realm of the Closed and Local Objects: these are the relative-distance and the relative-velocity between any two of them (details by Paper 2). Other kinds of Objects require additional Model blocks, which are still under construction.

Level f expresses the same idea (Step 2 formal), but definitely the Model attempts entering the elementary system. Hence we want to write anything down in terms of key-Logics of the Objects (Absolutistic block), and of key-Logics of the Relationships (Relativistic block). Our Objects are handled therefore in terms of a formal Artifact, which makes their logical-skeleton in A-B Logic-Geometry. Paper 2 also provides the Procedures and the Nongeometric instructions for emulating our two key Relationship of relative-distance and of relative-velocity between any two Closed and Local Objects.

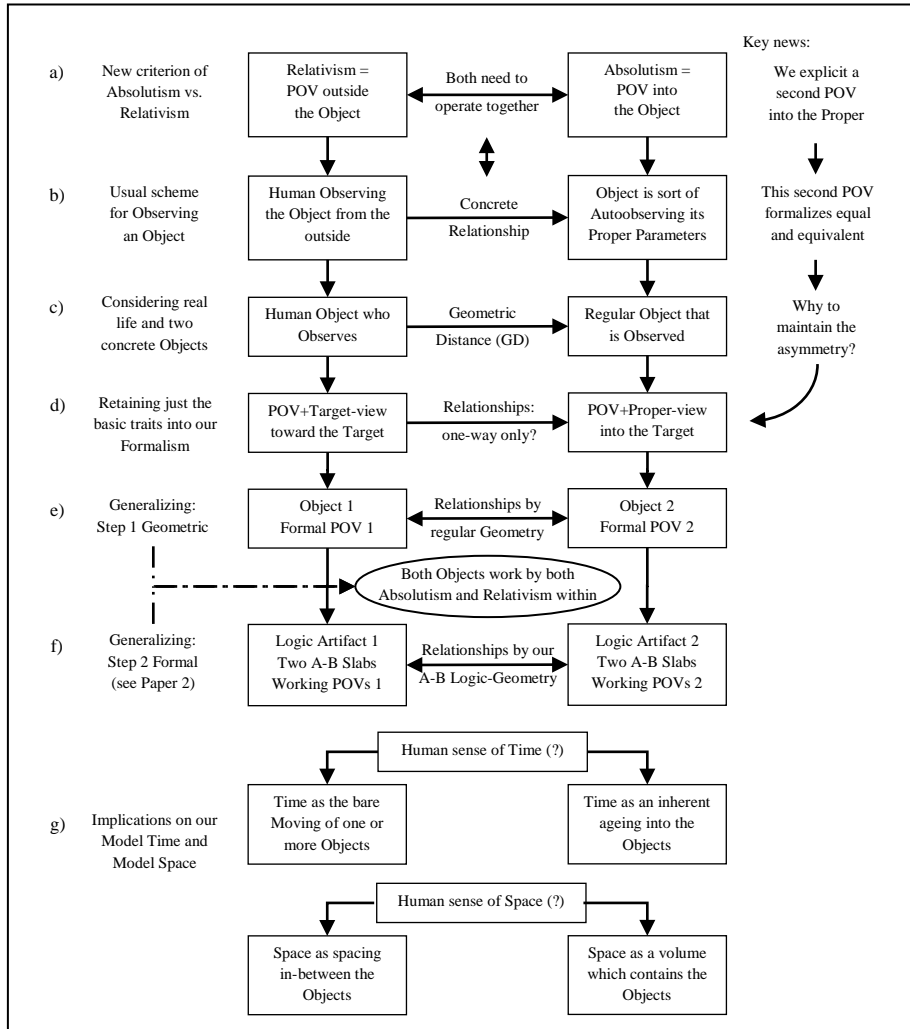


Fig. 9: Illustrating the Model Absolutism vs. Relativism as a pragmatic decision tool.

S27. Practical handling of the key Relationships into the Model.

Fig. 10 visualizes how we change our practical handling of the Relationships: compare the two left-right sketches a-b. We basically: start from the 3D; extract the Objects from their geometric frame; apply our Procedure for calculating the Relationship; map-back the results into the 3D; cross-check with the regular equations.

Sketch c on bottom evidences that our two formal POVs are always equal and symmetric. They both operate by the Model Absolutism and Relativism. Their only reference is the concrete partner on the other-end of the Relationship. Such a Relationship reads as a concrete logical-link between the two (details by Paper 2).

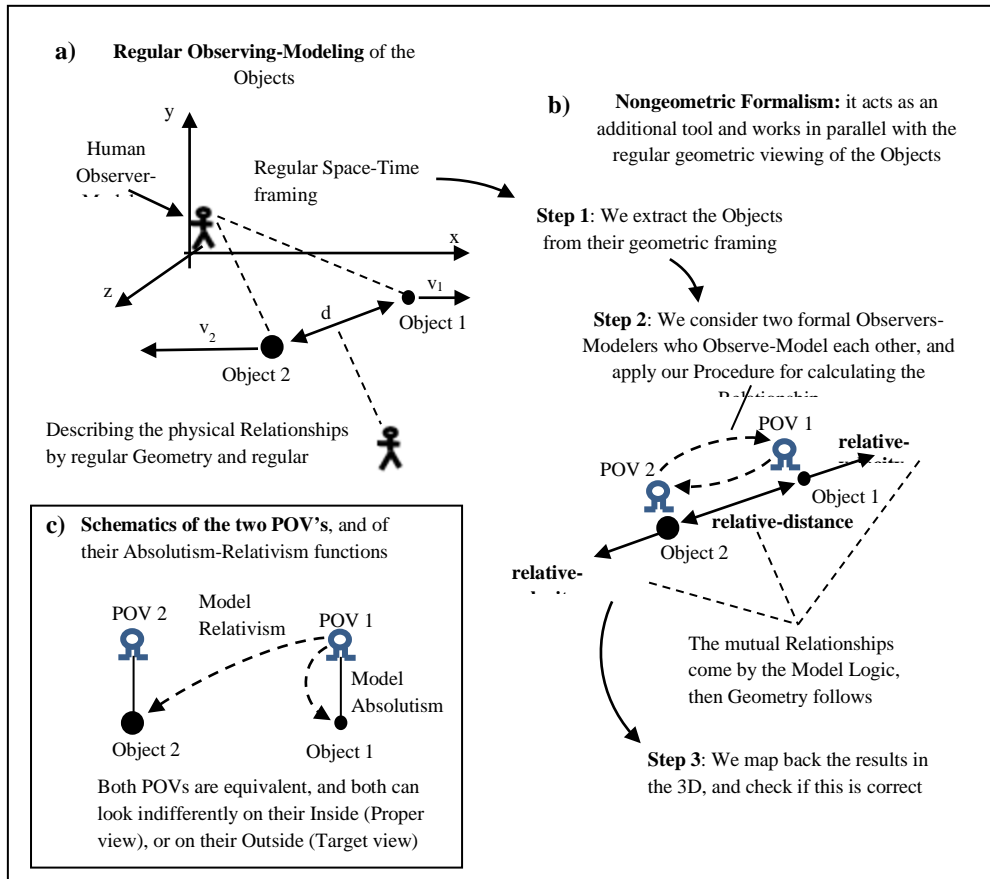


Fig. 10: Adding a Nongeometric scheme for Modeling the Relationships between the Objects.

S28. Implications on Time-like and on Space-like we can afford into our Model.

The last Level g on bottom of Fig. 9, prepares the idea that our criterion of Absolutism vs. Relativism, allows separating two connotations in the plain wording we use daily for either Time or Space. The conceptual frame we have just set, needs to keep self-consistent, so this restrains the way that we Modelers could conceive and implement concretely those two items into the Model.

We are going to make this point explicit right below (Section 3). If we want our Formalism to become a true operating-tool, we shall best include some Time-like and Space-like Parameters in it. Hence we will have to make some pragmatic choice about the Absolutistic-Relativistic components that we really want to pick up, and to retain ultimately as our Model Time, and our Model Space.

S29. Comment on why we try the Logic to formulate our Model Objects and Model Relationships.

By our scheme, there is no difference left between the Object and the Observer. This seems to answer the question we started by in S2, but another comes much more intriguing. We may even wonder on whether there is some special reason for distinguishing our three human concepts of possessing a given Parameter, being that Parameter, and Autoobserving that same Parameter into the Proper.

This illustrates by a dummy story. Let's say that the regular Observing-Modeling, basically expresses the objectivity both of the Objects, and of the Parameters we quote from outside the Objects. Our proposal makes a complementary scheme for formulating the same thing in a different way. Let's consider for a moment that our Model succeeds, and matches the regular one. Thus we have a same underlying concept of objectivity of Nature, which formulates by two distinct sets of human concepts.

Let's take now an alien, whose process of thinking formed differently. Nevertheless, he adopts a strict scientific methodology, and we imagine that he has developed, for instance, four complementary alien Models of Nature. They express the objectivity of Nature by four distinct sets of alien concepts. On the whole we sum 2 by us and 4 by the alien, which makes 6 distinct sets of particular concepts which match the experiments. They all confirm indeed the objectivity of Nature.

On the other side, there is Nature. Here we assume that Nature is truly objective, and that She does not uses concepts for what we mean humanly. Therefore, She qualifies a zero-concepts with regards to us, and to the alien. Still, when we carry out an experiment, we can make sure that Nature behaves the way we expect. Its own Parameters are stable and regular, and in the very end, they are just the way they are. In short, Nature neither Observes not talks, and basically is; or equivalently, She just performs herself.

Asking who is right, whether we, the alien, or Nature, makes an open self-nonsense condition into the Modeler. It is worth anyway to ask, and we basically assume that the only common point for matching those three distinct players, must be some elementary Logic that we can track both in Nature, and in our human concepts. This remains reasonable, if we accept that we are a concrete Observer-Modeler who is part of Nature. We also consider that the alien-thinker, if any, must be concrete the same extent we are. Therefore, the arguing would stay the same for him.

S30. Practical implications of this last assumption for our Model.

The argument above has some practical outcomes that may help our Model. First, we are the Modelers, and are not in the position of giving an answer to such an issue. Hence we do not care of our three human options of formulating by possessing a given

Parameter, being that Parameter, or Autoobserving that same Parameter in the Proper. Second, we push our generalization a step more:

- We assume that having an objective Parameter and a contextual POV exactly there, does not actually concern Nature, but it is inherent to our human Observing-Modeling of the Objects. A fair example is when we quote the static weight of a concrete body: the concrete reading and the concrete writing down of the value, all come to be on the outside of that body. We can say this is the Proper weigh that the body possesses, only because we associate an abstract POV, which is ultimately ours, to the inside of that same body. We are in such realistic, as we admit that the measure we take is outside the Object, but by logic we know that it is part of the Object, and that it was originally inside of it. As we cannot enter concretely a regular Object, we basically need to imagine that our own POV be there concretely on our behalf. We basically have no alternative, if we want to affirm that a given Parameter of an outside Object we have on Target, is objective for sure.
- More in general, we assume that within the frame of the human Observing-Modeling of the Objects, no Parameter could be defined unless we associate a contextual POV to it: we mean a POV which works together with the Parameter, and which stays concretely there where the concrete Parameter is. Much of the way we handle Model Relationships, basically comes from nothing but making explicit and implementing this points.
- Next, we assume that all concrete POVs are equivalent and double-function inside-outside. This formalizes respectively in terms of their Proper view and Target view. We assume that the two are contextual and always work together. Furthermore, we want to make sure that our Model Relationships qualify objective-like. Hence we assume that a relative Parameter which calculates into the Target view of a Relativistic POV whatsoever (i.e. from outside the Object), is as much objective into that same Target view, as a Proper Parameter is into the Proper view by a Proper POV (i.e. from within the Object). The only difference is that the first POV stays outside his Target, whilst the second stays inside. We however assume this is incidental, and does not actually affect the objectivity-like of the formal quoting by our Model POVs: the quoting by a concrete POV whatsoever, either Absolutistic or Relativistic, stay objective-like in any case. This in turn implies that into the Model, we consider objective our Model Relationships, and basically same level of the Model Objects.
- In the very end, such an approach simplifies and standardizes our practical problem of calculating Model Relationships (Fig. 10.c). Operatively, we play our two POVs into the Observer-Observed pair, and focus on a given Parameter of the Object we have on Target. We normally consider that we know the

baseline-value of that same Parameter into the Proper of the Target (e.g. its Proper Mass or its Proper Time). Next we set a Procedure for calculating that same Parameter by the Relativistic POV who stays into the other Object, i.e. the one we make to play the Observer into the pair. Hence we handle our Model Relationship as a plain correlation between two concrete POVs, where: the Relativistic POV plays the Observer, and calculates by the Target view he applies on the other Object; the other Object plays the Target, and works by the Absolutistic POV it has on board (this reproduces the familiar idea of the Proper, and of the Proper Parameters of an Object). When we Model a specific mutual Relationship, we have to make sure that the Relativistic picture by the first POV outside the Target, and the Absolutistic picture by the POV on board of the Target, always balance and keep consistent one another. We in fact claim that they both are objective-like, and any logical-gap between the Absolutistic and Relativistic viewings of a same Object, would create a severe self-nonsense condition into the Model.

III. PRACTICAL OUTCOMES ON HOW WE COULD HANDLE THE MODEL TIME AND THE MODEL SPACE.

The problem we have here, are not Time and Space by themselves. We limit to just the way we want to shape and to handle those two human concepts into our Formalism. We privilege a pragmatic position, and just make explicit some ambiguities which may possibly enter the Model. We actually refrain from the naive idea of Time, and prefer using concretely the one of Changing.

Our decisions below come from the ideas we propose for describing physical Objects in Nongeometric terms (Section 1), and from our new tool Absolutism-Relativism (Section 2). They lead to a very particular and much unusual notion of Time-like, which becomes operatively discontinuous into the Model and Beats pace-to-pace. We also split the human sense of Space into two distinct components, which are the Nonlocal volume of the Objects, and the relative-distance in-between their solid cores.

S31. Possible ambiguities in the traditional human wording of Time.

Time has remained a mystery throughout centuries, and we would not solve the problem here: we will care of just the Time-like Parameters of our Formalism. First, we consider that as humans, the idea of Changing is an important part of real life, and we are quite confident that it is concrete. On the other hand, we know that Changing always implies some macro or microscopic Moving underneath.

Nobody has ever seen Time, actually, and we cannot touch at it directly. We see to Move the needle of a clock, which is a concrete Object. We may also see to Change the digit of an electronic display. This however comes from Moving an electric current

within the display, and once again such an electric current is made of concrete Objects which Move.

The Change that we measure as human Time is objective, but we only detect it as the result of some concrete Objects that Move (e.g. the clock needle, or the electrons in the display). More precisely (our formal criterion), we detect a geometric Change of some concrete Object from the outside of the Object itself (e.g. the different-position of the needle, or the different-shape of the digit on the display). In any case, we use an Observing POV which stays outside the Object, so this definition-measure of the human Time automatically rates Relativistic by our Formalism.

On the other hand, when we mention Time, we normally mean some inherent ageing and some concrete Change which goes on relentlessly within the Objects. This second meaning of the word Time qualifies Absolutistic via our Formalism. We note that the Observing POV is still ours and it is still outside of the Object which ages (same as above), but by this second feeling-definition of human Time, we now just do not see anything, and cannot appreciate any concrete geometric Change. We consider that this presumed Absolutistic-ageing definition of Time, makes nonetheless a second and well-distinct component of the human sense of Time.

Nowadays, we still do not know for sure if Time is a concrete physical entity or a bare human construct, and surely we do not care here. We just note that inside our own human thinking of Time, there are practically two distinct components:

- When we humanly say Time, we mean something Proper of an Object that we suppose to Change in Time; therefore, this first naïve-intuitive connotation is Absolutistic.
- When we quote Time, we refer to some geometric Change that we witness from the outside of a concrete Object; therefore, our practical-operative notion of Time is Relativistic.

S32. A first pragmatic choice on whether the Model should contain some Model Time.

A key point is to decide which part we want our Model Time to stay. If Time coincides with Moving, we do not need an additional Time-like Parameter. Our first pragmatic choice summarizes below:

- We accept not to know whether Time is a concrete physical entity or a human convention.
- Changing is a key trait of Nature, and Time is practical to describe it. Hence we will retain a Time-like parameter into the Model. We will make it Absolutistic by a formal definition, and shortly after we will set up an ad hoc Time-function to have a Proper Time-counter within our prototype Objects. This will be practical in Relationships, where we basically must compare the relative Model Time of two Objects (e.g. relative-velocity situations).

- Hence we start by formalizing the word Moving as a geometric Change that can be detected from outside the Object: this classify Relativistic. To have some Absolutistic quoting of Time-like into the Model, we define it by just inverting the Logic of the word Moving. Our formal proposal for the Model Time, is therefore the one of a concrete Change which occurs into the Proper of an Object, but that could not be detected by an outside Observer who bases on just the Geometry of that Object. We apply this criterion to both our human and formal Observers.

Operatively, our Formalism will handle the Moving vs. the Model Time as just as plain two-sorts decision. This relates to where we set the POV, and to what this POV can see. First of all, we assume that our Model World Changes restless as we see in Nature. Next to that we define:

- If our Observer, judging from the outside of a Model Object, can see this Change as a geometric Change, the Change itself classify as a Moving, and it stays on the side of Relativism.
- When on the contrary the Change concerns the Proper of an Object, and does not produce a geometric Change that could be appreciated from the outside, our Formalism classify this Change as the concrete running of an Absolutistic Model Time within the Object.

By definition, our Model Time could be detected only by an ideal and barely formal POV that we Modelers set into the Objects. The choice of adopting an Absolutistic Time-like as the logical-opposite of the Moving, makes a very particular and unusual option. We can play such a Modeling artifice just because of the particular two-Slabs construction of our Objects, and because we use a particular A-B Logic-Geometry for those two Slabs. Subsection 4.1 below will illustrate the specific Time-like artifice we implement operatively into the Model, then Paper 2 will provide all details.

S33. Crossed requirements for the two human concepts of Time and of Unambiguous Objects.

Our Model Time must operate on concrete and Unambiguous Model Objects. There is a crossed requirement that we need to account for. As we are a concrete Observer-Modelers, anything we do needs a concrete Time to be done.

Such an issue comes out when we cross check our human idea of Time against the one, which is human again, of Unambiguous Objects:

- We usually think of an abstract Time which stays everywhere and runs continuously. Our human feeling is that the Objects Change restless.
- Nevertheless, we count on the fact that those same Objects always stay Unambiguous. We could hardly renounce this idea.

S34. Choosing the notion of a discontinuous Time to save the human Unambiguity of the Objects.

We consider a regular Object, and simply assume that it qualifies Unambiguous because its Parameters are neat and single-valued: a ruler with two lengths at once, or a body with two Masses at once, would not be Unambiguous.

The implications come if we consider that for how fast we can see and judge, we remain a concrete Observer-Modeler. To have an Unambiguous Object in our human Model, we need a finite nonzero Time to Observe that Object, and to conclude that it qualifies Unambiguous as we normally mean. During that very short but finite Time-interval, we stay incomplete-undetermined about the Object Parameters, and they should not Change in the while, otherwise we could not conclude that they are single-valued, and that the Object is Unambiguous.

This illustrates by a dummy argument. We imagine to have a limiting Observing-Modeling Time of 3 milliseconds, and our Object in its Proper is worth exactly 11 the first millisecond, 12 the second one, and 13 the third one. Thus the Object is no single-valued onto our inherent Observing-Modeling interval of 3-milliseconds. We may put right by saying that the problem comes from our inherent Observing-Modeling interval, and in this case, it is just too coarse to compete with the inherent Changing rate of the Object: the Object by itself qualify Unambiguous during the first, the second, and the third millisecond. This is correct, but the Object stay Unambiguous as 11, 12, and 13, onto three different Time-intervals which are shorter than our inherent Time-limit.

Nevertheless, we see Unambiguous Objects in real life, so we may think that our human picture comes out as an average of Reality. In this example, we would catch humanly an Unambiguous Object of say 12 on average, onto our inherent Observing-Modeling interval of 3 milliseconds.

We overcome continuously our limits by technology, but in a concrete World, the Time-interval for we to Observe an Object and judge that it is Unambiguous, would never reduce to exactly zero. As long as we stay on the human scheme of an Object that Changes continuously in Time, we must accept that this same Object remains Unambiguous for just an instant during zero. This overcomes for sure our concrete Observing-Modeling speed.

The argument has nothing to do with the Objects and real life, but it has some implications regarding the options we can choose for our Model. Our assumptions list below:

- The two human ideas of an Unambiguous Object, and of an Absolutistic Proper Time which runs continuously within that same Object, are conflictual.
- Both are part of our natural perceiving of the physical World. They operate contextually as a two-way channel, where on one side the Objects are frozen-

static and stable in their Proper, whilst on the other they Change restless in Time.

- As this is conflictual, we may for instance give up the human idea of Time. Hence we would picture the Changing in the World, as just as the Moving of permanent Objects with no Absolutistic Time in them. Otherwise, we may conserve the human sense of Time, but we should conclude that our feeling that Objects are Unambiguous, is barely human.
- By our Formalism, we practice the third alternative left. We deem that it is nevertheless useful, to have some Absolutistic Time-like Parameters into our Model Objects. We also want them to qualify Unambiguous in the sense we mean here. Hence we switch pragmatically to a formal notion of Time-like which becomes discontinuous.
- Next to that, we will define a suitable mechanism and a proper Time-like function, to make sure that any one of our prototype Objects stays in a neat and permanent state for a Time Scale of $\frac{1}{2} \tau_0$. Then the Object Changes suddenly its status, and remains Unambiguous for another Time Scale of $\frac{1}{2} \tau_0$, where the τ_0 is particular to that Object.
- Our Time-like mechanism is such that the second internal switch of the Object, actually recreates the starting state. In short, we assume that this makes an ideal pace-to pace counter into the Object, and say that after such a two Object-Commutations, one full Time-like scale of τ_0 seconds has elapsed into the Model.
- Our formal Commuting of the elementary Objects is a specific Poles-exchange technique: it comes from inverting their inherent A-B Logic, and we operate it into the Proper of our formal Objects. We basically assume that such a Modeling artifice, provides a practical tool for we Modelers to count step-by-step the Absolutistic Model Time. Such a fictitious pace-maker, is nested individually into the geometric-like body of our composite Objects. Any of them, actually, Beats a Proper $\frac{1}{2} \tau_0$ after another, so that it carries its own Absolutistic Time-like on board (discontinuous Beating-mechanism of the individual Model Object of any kind).
- Such a Model function comes from an opportunistic and very particular choice by the Modeler. It basically copies and mechanizes the natural human feeling of some inherent ageing of the Objects with Time. Therefore, it leaves our human questions on Time totally unresolved.

S35. Extending the idea of a discontinuous Time to a general rule for human Modeling.

We can formalize the dummy arguing above, into a more general Rule that we derive not from Nature, but again from the inherent human Observing-Modeling of

the Objects. The whole makes an explicit assumption of our Formalism. Basically, we consider that the ultimate element on which we base any one of our human Models, is the concrete Presence of an Unambiguous Object in front of us. That is why we claim for a set of objective Parameters of that Object in its Proper, and that is from where we start our Observation and Modeling of the physical World.

We can make the example of a given Proper Mass m_0 [kg], or of a given proper length l_0 [m]. We can quote them in human terms only because a physical Object is Present before. The whole set of Parameters that we may Observe-Model, is nothing but a human detailing of that same physical Presence. This set is human, but we assume it is objective because it comes from the concrete Presence of an Object. Such a physical Presence establishes well before our human quoting.

In the very end, it is reasonable to accept that the physical Objects were there prior that humans appeared on Heart, and surely much before that we learned to quote their Parameters systematically. Throughout our Formalism, we assume openly that the concrete Presence of an Object is independent from any conceptual filtering that a human Model may ever apply on it. Our criterion is that the humans may contaminate the human Observing-Modeling of the Objects, but not the Objects by themselves. Such a position requires by itself that an objective Parameter which is Proper of an Object, be permanent and reliable. We must be confident, within our conceptualization of a regular Object, that its Mass, its length, and the whole set of the Proper Parameters that we associate to that Object, do not Change arbitrarily with Time.

We summarize the whole as the concrete physical Presence of the Object, and may want to conclude that such a human notion, works opposite way of our own idea of an Object which Changes continuously in Time. As a matter of facts, we have sort of two-way perceiving of an Object, where: on one hand, it is Present permanently, to the point that we find natural and fully reliable the set of Proper and Unambiguous Parameters that we assign to the Object; on the other hand, we think of something that we call Time, and which ages the same Proper of the Object, making it to Change continuously with Time.

Once again, this tell us nothing about the two items that we define humanly as the Presence and the Change. We however assume that they both are inherent to the human Observing-Modeling of the physical Objects, and formalize this Twinned-component into the Model:

- The Presence and the Change make a two-way human perceiving of the World, where the two terms are contextual and obey an inverse-Logic.
- Giving up trusting the objective and permanent Presence of a regular Object, would seize our Observing-Modeling position. Denying some inherent Proper Change of that same Object, would traduce in denying the Absolutistic Time

and the Proper ageing as we mean humanly. In such a case, we would refuse Time-like Changing of Nature, and only trust the Moving of the Objects.

In short, we assume that our two human claims for an Object to be Present permanently, and for it to be Changing continuously, are contradictory. Hence we generalize this point by assuming that:

- The two Logics of being Present and of being Changing, are Reverse-Logics within our Formalism; the more one Object Changes, the less it can be Present. This generates an inverse-mathematics into the Model.
- Any one of our inherent Proper Objects is associated to a Time-like Scale τ_o [s], which quotes its permanent Presence, and to a Frequency ν_o [1/s], which quotes its rate of Change by the Model Commuting. Into the Proper of an Object whatsoever, those two Parameters always obey a Reverse-Logic, and balance each other as of $\tau_o \cdot \nu_o = 1$ (details by Paper 2).

S36. Applying the same pragmatic criteria to decide about the Model Space.

No one can touch at Space, so that this part of our Formalism may proceed similarly to what we did for the human sense of Time. Space is more concrete though, and we remain interested in just the way we can manage practically this item in our working Model.

As we pointed out in Section 1, we want to handle Space not so differently than a regular Object. Hence we intend the Model Space as an individual Outer complement of any one of our formal Objects (more details by Subsection 4.1). We flag out that this component of our Formalism, does not match completely our usual idea of the regular geometric Space.

Basically, we prefer not to use the word Space into the Model. By Fig. 11, we only count on two distinct Model components, which lay much clearly on either the Absolutistic or the Relativistic side. They are:

- The concrete Geometry-like of our elementary Objects, which is Absolutistic. The situation is much the same of the regular Objects in real life, except that the human sense of Space is allocated to the Outer Nonlocal Slab of the particular Model Object we are handling at the moment.
- The Geometric Distance (GD-Parameter), which is relational and markedly Relativistic. This matches our current idea of the regular geometric spacing in-between two Objects. We note that such a two Objects must be of the kind Closed and Local (our Proto1 standard as of Section 4). For the rest, we handle regularly our GD-Parameter, and define the GD as the geometric distance, in meters, between the Inner Poles P_{o1} and P_{o2} of any two Model Objects (into the 3D, our end-Pole $A=P_o$ makes the equivalent of a geometric Point).

As a general Rule, our Formalism focuses on concrete items only. This is nothing but an operative choice, and in Paper 2 we provide a precise h-criterion to judge on what is concrete and what is not into the Model. As a result, our Formalism does not contain neither empty Geometries, nor abstract distances. The two geometric-like items above, are formalized so as to qualify concrete into the Model. Our formal A-B Geometry actually matches the current idea of a body of an Object, and this same concreteness applies to both its Local and Nonlocal parts. We will handle the Model GD as a concrete item also: we accept plainly that the physical distances are concretely objective in real life, and we just reproduce it formally into the Model.

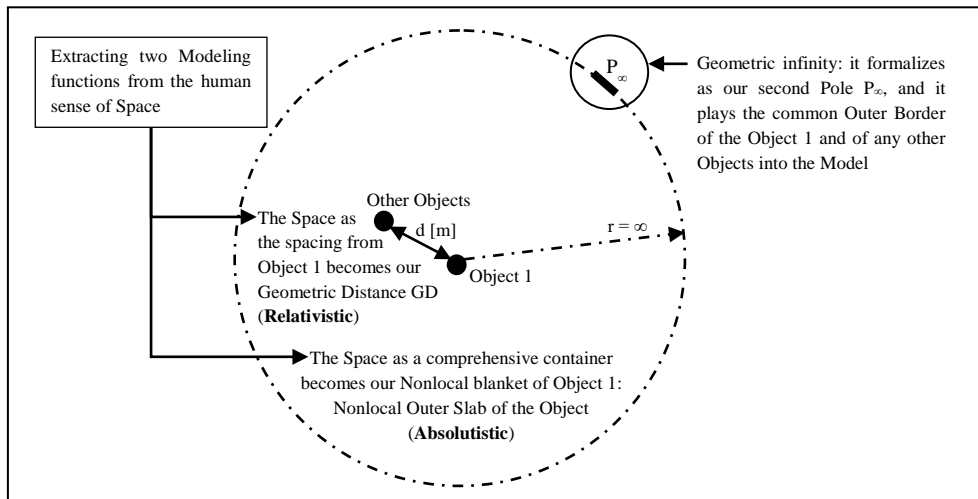


Fig. 11: Splitting up the human sense of Space into two separate Modeling functions.

The next Section shows intuitively a possible way for implementing our particular Modeling criteria into our composite elementary Objects. Basically we prepare for their detailed setting up, and for working practically with them as of Paper 2. In short, we present an extra-Model of the well-known Point-Mass scheme, and define two extreme standards for our A-B assemblies. They track two distinct kinds of elementary Objects, and we call them respectively Proto₁ and Proto₂

IV. PRACTICAL APPLICATION, AND ILLUSTRATING OUR FIRST TWO ELEMENTARY OBJECTS PROTO₁ AND PROTO₂.

It is now time to bring together our ideas on human Objects, Space and Time. We basically want to derive an absolute-beginner Object (Proto₁), which allows emulating the regular Objects within the limit of a very rude Point-Mass equivalent. Our key principles resume below:

- We do not want to change our regular picture of Reality. On the contrary, our Formalism is geometrically-blind, and we must support it by our natural and usual Modeling of Nature (no-strange-things criterion).
- First, we put the emphasis on the inherent A-B Logic of our formal Objects-Space, then we get a standard for their composite A-B Geometry. We proceed this way just because the idea of some Logic on board of the Objects is new, but for the rest our Logic-Geometry works at once, neither we Modelers could say which one comes first (badly-formulated question).
- We introduce a supplemental Round-like POV on the opposite end of our human Point-based Geometry. Hence we get a working antisymmetric-perceiving from there, which allows managing practically the Nonlocal part of our formal Objects. In any case, its practical handling stays straight.
- We conceive any regular Object as being intimately complemented by a Proper Nonlocal part. To describe it in a plain and handy way, we use a Logic B which is just the inverse of our regular Point-based Logic.
- We take advantage of moving the POV directly into the Objects. Hence we use their formal eye-like as if they were a camera playing for us. Then we describe the Model Objects and Model Relationships from within the system.
- For a while, we keep away and neutral with regards to our naïve Space-Time framing of a single Object. Instead, we focus on just two concrete Objects that entertain a concrete Relationship. The Model is equal, and always handles a couple of Objects.
- We reconsider our natural feeling that an item or a concept can concretely exist by itself. The whole Formalism relies on Twinned-concepts and Twinned-items: no single and alone-standing entity can be practically defined in it.
- We adopt, although unusual, the pragmatic idea that to stay consistent with the inherent human conceptualization of Unambiguous Objects, the human conceptualization of Time, if any, must be discontinuous. Then we work by a fictitious Time-like that we flag out by the word Beating, and that in fact consist of a pace-to-pace progressing of the Model.

We detail in a separate Paper 2 the way we build and manage practically our elementary Objects. Below we present a quick overview of some key features which are very particular to our Formalism: they come from the very particular set of assumptions we introduced above.

IV.1 Illustrating our composite Proto1-Object for emulating the regular Massive bodies.

Proto1 makes our first-kind standard (emulator of Massive and Local Objects): basically, it is made of a geometric-like body, and of a Time-like function.

As a first step, we generalize our idea of the P_0 - P_∞ into an A-C-B Logic, and get the geometric body of our composite Object as of Fig. 12 (generalization of Figs. 6 and 8)

- a) By the left-side (Model Root), we sketch a bare logical-skeleton where the distances are formal, and anything is symmetric. The maximum 100% quoting of the Field A-B, reproduces the maximum distance we can conceive humanly between a geometric Point P_0 and our geometric infinity at P_∞ . The A makes the Local side, and the B the Nonlocal side of our Formalism.

We set an h -criterion to judge on whether an item is concrete or not into the Model, and allocate one integer h to the Object in its Proper, where the h is the Planck constant [$J \cdot s = (kg \cdot m^2)/s$]. As the two halves of the Object weight logically 50% each, we allocate $\frac{1}{2} h$ and $\frac{1}{2} h$ to its two Local and Nonlocal Slabs.

- b) By the right-side (Model Watch), we quote normally the thickness of the two Slabs by a λ_0 in regular-meters and a σ_0 in inverse-meters. Our A-C-B Logic actually generates a third unknown Parameter τ_0 . We just know that it cannot be geometric-like, so we Modelers play opportunistic, and associate it to the Time-Like Scale of the Object. By the inherent symmetry of the assembly, the τ_0 is the same in the Local and Nonlocal parts, and we quote it regularly in seconds. We also define a Model Frequency ν_0 as just as its inverse, and quote it normally in inverse-seconds.

We use in general an appropriate Twinning of the Model Scales (logical-inversion). On the geometric-like Layer of the Proper Object, the λ_0 and the σ_0 correlate as of $\sigma_0 = 1 / \lambda_0$. The whole remains Nongeometric, and does not make a mathematical system in the sense we normally mean (otherwise our Model would never work).

The particular A-C-B construction gives our Objects some inherent formal properties. A key one evidences by Fig. 12.b:

- There is always a fixed proportioning ratio between the Local Slab λ_0 and its Time-like Scale τ_0 : this makes a first unknown constant of our Formalism [m/s]. We Modelers play opportunistic, and fit this formal value of $\lambda_0/\tau_0 = \text{Model-c}$, onto the regular speed of light c [m/s].
- There is a specular proportioning ratio of $\sigma_0/\tau_0 = a$ [$1/(m \cdot s)$] toward the Nonlocal side of the Object. Such an unknown Model-a, makes a second inherent constant of our Formalism. Once again, we Modelers borrow some key concepts from Gravity and the Schwarzschild radius, so we propose making-associating: $\text{Model-a} = c^4/(G \cdot h)$, where G is the gravitational constant

$[m^3/(kg \cdot s^2)]$, and h is the constant of Planck $[J \cdot s = (kg \cdot m^2)/s]$ (details by Paper 2).

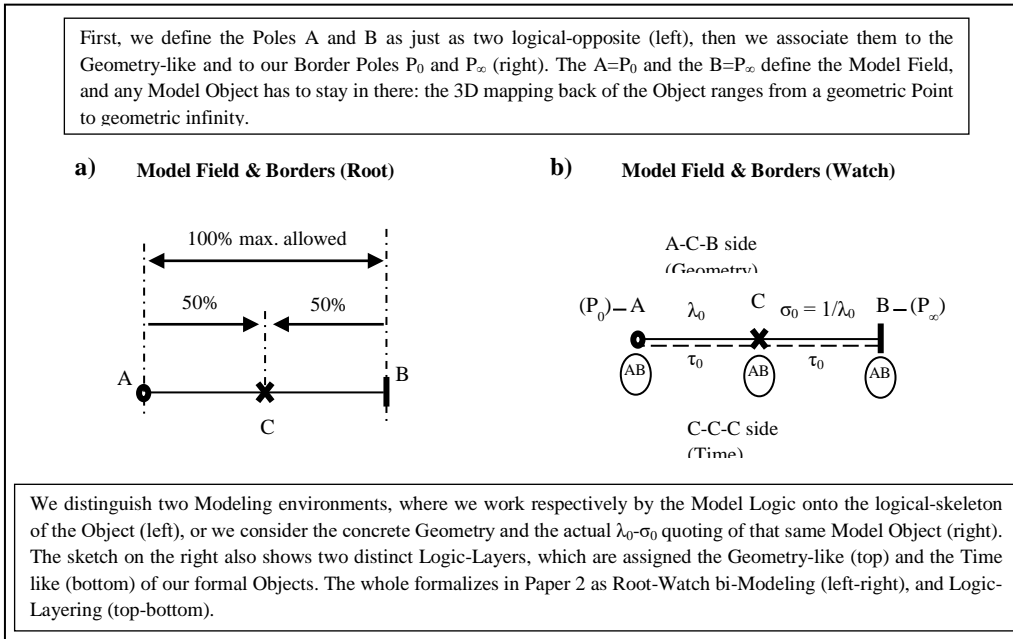


Fig. 12: Possible schematic of the first-kind elementary Object (Proto1).

Fig. 13-left gives an example of the 3D-equivalent of our Proto1-Object of Fig. 12. Such an illustration makes a regular-like popping up of the Model, and corresponds to some visual mapping-back of our Nongeometric Formalism into the 3D: basically, there is a Local solid core of λ_0 meters around the P_0 of the Object, and it stays in the center of its Nonlocal half, which emulates Space-like, and extends till geometric infinity at P_∞ ; for us, the Model span from the Object Interface to the P_∞ , becomes straight and measures σ_0 inverse-meters.

If we next think of some animation left-to-right in the figure, we can appreciate our formal artifice for counting concretely the Proper Time-like into the Object. This is more properly a Model pacing, and basically consists of exchanging regularly the Logic of our two end-Poles $A=P_0$ and $B=P_\infty$:

- The Logic-inversion of the A and the B leaves the draft-Object unaffected in our sketch of Fig. 12: the system there is symmetric, and fully blind-and-neutral on the human sense of the right and of the left. The overall Geometry of the 3D-assembly into our Fig. 13, does not vary neither: another Local solid core of λ_0 meters replaces the former one, and still it stays in the center of geometric infinity (no-geometric-Change criterion).

- We Modelers however know that the two concrete $\frac{1}{2} h$ that we allocate onto the Local and Nonlocal parts of the Object, underwent a relevant Change: one $\frac{1}{2} h$ was Local by Logic A and is now Nonlocal by Logic B, and vice versa contextually for the other $\frac{1}{2} h$. We assume this is a concrete Change into the Object with no geometric-effects, and we consider it makes half-a-pace of $\frac{1}{2} \tau_0$ seconds. By one exchange more, everything comes back in the starting configuration, both into the 3D and into the A-C-B assembly: we consider this closes the elementary cycle of our formal Time-like, and makes one full Model Pace of τ_0 seconds [s].
- Next, we Modelers imagine to apply fictitiously a given number of Poles-exchanges per any regular second, and give the Object a Model Frequency of ν_0 [1/s]. This formal Parameter is the usual inverse of the τ_0 , but for us the Model Time-like counts discontinuously (pace-by-pace mechanism). The τ_0 basically means the Time-interval that our A-C-B Object has stayed there complete and well-shaped during one Model cycle. Such a self-evident definition becomes practical when we handle the Relativistic Time dilation: by our scheme, the Model Time-dilation calculates by a straight Object-to-Object comparison, where we basically account for the different relative running of their two individual clocking-functions on board (more details and practical exercises in Paper 2).

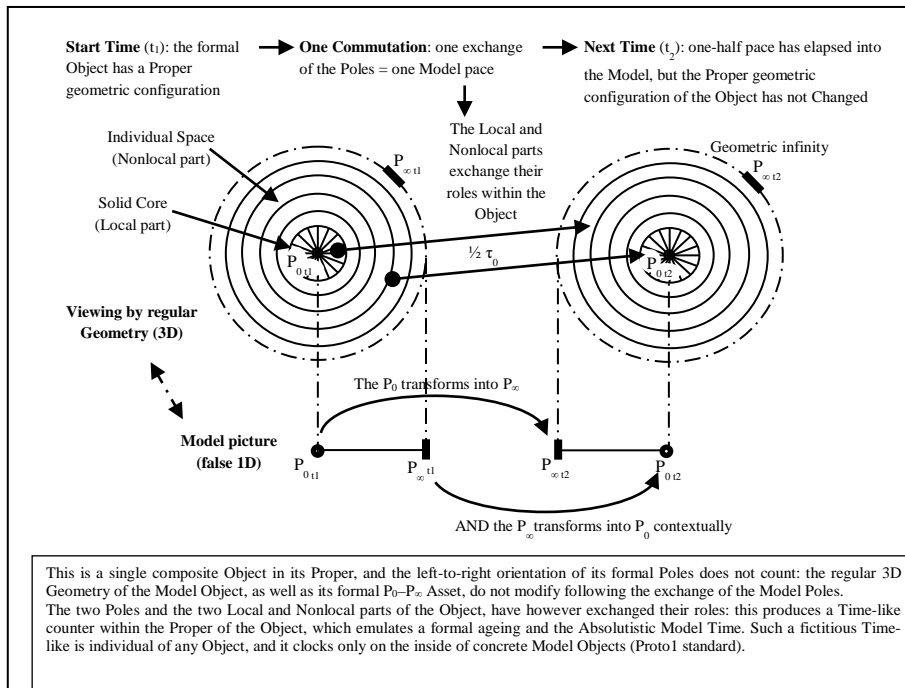


Fig. 13: Exchanging the Model Poles and formalizing a Nongeometric Change into the Object.

Fig. 14 condenses the tree key blocks that we Modelers use to build and to handle practically our first-kind Object in its Proper. Our Model is nothing but an extra describing tool, and includes some fictitious Modeling functions that we imagine to be on board of the Objects. Those sub-components basically are the working A-B Geometry, the underlying A-B Logic, and our Time-like which is discontinuous:

- Fig. 14.a gives a possible schematic of our starting Proto1-Object: by definition, it is a standard and complete A-C-B assembly (its logical-skeleton shows below its Geometry); its geometric-like body is made both of a Line-Slab (regular A-Geometry which qualify Inner-type), and of a Round-Slab (Reverse B-Geometry which qualify Outer-type).
- Fig. 14.b suggests a possible schematic of the same composite Object into the 3D: the Model is geometrically-blind, so when we work in it, we have constantly to map-back by referring to regular Geometry, and to the regular 3D-viewing of the Objects themselves (details and practical instructions by Paper 2).
- Fig. 14.c proposes a typically-human and very straight visualizing of the Model Time-like: we can imagine counting trivially a pace-to-pace stacking of our Time-like states into the Object. Our Commutation is not a Moving though, and the arrows in the sketch basically stay for a contextual Change-of-state of the two $\frac{1}{2} h$ on board: the one we allocate A-type and Local onto the Line, just switches Nonlocal, whilst its Twinned $\frac{1}{2} h$ on the other side of our Formalism, just switches Local and replaces the first (the two refresh-like each other). By definition, we have neither geometric Change nor Moving in the sense we normally mean.

A whatsoever Object of this kind quotes in its Proper $[\lambda_o; \sigma_o; \tau_o; \nu_o]$. These are the four elementary Parameters that we need to handle at this starting stage of our Model. When we say that such a Beating-Object makes a first-kind (Proto1), we basically refer to its A-C-B configuration, which in this case is fully unfolded (0% overlapping of the two A-B Slabs).

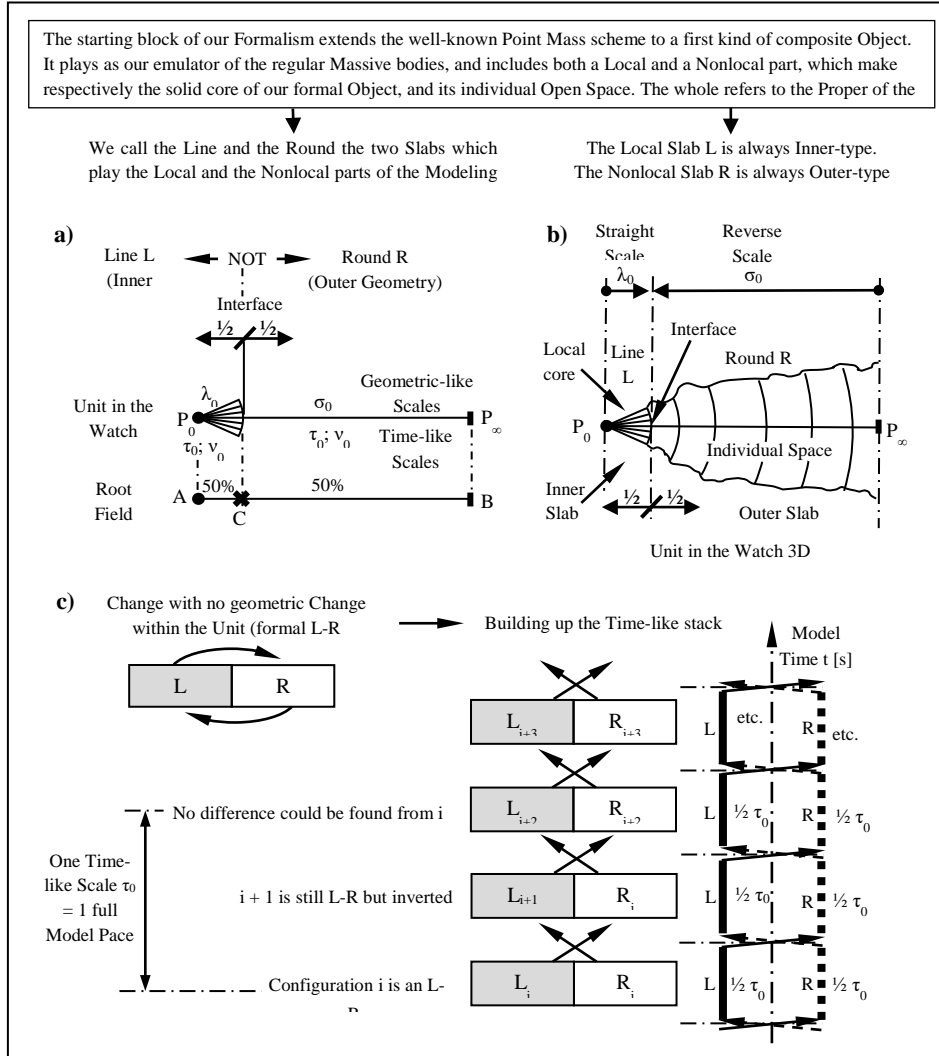


Fig. 14: Overview of the full Proto1 which emulates the Closed and Local Objects.

The term Beating also stays for formal Object in general: one Beating means one integer Modeling Unit with its own integer-h on board. Any time we Modelers claim that an elementary Objects is operating in our Model, we must allocate a Beating and one-h into its Proper (otherwise, the formal Object cannot qualify as a concrete-like entity: explicit h-concreteness criterion).

We can also associate a formal Mass-like and Energy-like to our elementary Objects, and in this case, we refer to their Local part λ_0 (Line-Slab toward the A-Geometry in our sketches). Basically, we take advance of the fact that we Modelers loads a fictitious Modeling Frequency ν_0 into them. Hence we extend tentatively, into the Objects, the

well-known formula for light ($E = h \cdot \nu$). Our Energy-like Parameter writes down, into the Proper, as of $E_0 = h / \tau_0 = h \cdot \nu_0$ [J]. Then the formal Mass-like comes by coping the well-known $E = m \cdot c^2$. Into the Proper of our formal Objects, we just write $m_0 = E_0 / c^2$ [kg] (more details by Paper 2).

IV.2 Transforming Proto1 and getting a Proto2-standard for the light-like and the Moving-like.

The next step, is to give the Model the ability of describing the Moving of our formal Objects. Operatively, this comes by setting a standard for the formal Moving-like, which in turn takes the form of a 100%-Moving Object (Proto2-standard, that we derive from Proto1). Then we emulate the regular Moving of a regular Massive Object (Proto1-standard), by working into a Relativistic Target view (specific Modeling environment), where we handle, from the outside, the Object-emulator that Moves relative to our formal Observer (another Closed and Local Massive Object). In such a Relativistic Target view, we split fictitiously the Moving Object in:

- a first formal Fraction (say α), that the Observer handles as a regular Still-like Object of the kind of Proto1, plus
- a second formal Fraction (say $1 - \alpha$), which does not fit anymore the Proto1-kind, and that the Observer must handle as an equal Fraction of our purely-Moving Proto2.

Such a Procedure is Nongeometric, and it is very particular to our proposal. It consists of a contextual extra-Modeling of the physical situation by a proper set of elementary Logics. Paper 2 provides a detailed list of practical instructions for both handling formally a relative-velocity Relationship, and for coordinating at once with our regular 3D-viewing of the thing.

Here we limit to introduce intuitively our standard Object for the 100%-Moving, which basically takes the form of our Proto2 (second-kind elementary Object). Its derivation, as well as its configuration and formal behavior, illustrate on the right of Fig. 15: compare with an equal Proto1 on the left, where the values of the Parameters are the same, and the subscript m in the Proto2 configuration, just distinguishes the folded Unit from the unfolded original.

The sketch on top of Fig. 15.b (see the passage $P1 \rightarrow P2$) shows how to generate a Proto2 from a Proto1, basically by a logical-geometric folding of the Unit. In Paper 2 we define a proper half-Reversal of the Proto1-Unit: it is a logical operation, and basically defines as a single-shut NOT on one end-Pole only (e.g. the A of our sketch). This produces a different configuration (fully-folded Unit whose A-B Geometries overlap 100%), which stabilizes onto a very different way of Beating.

The idea is that we start, by definition, from a preset and concrete-like Proto1-Object (1 Model-h allocated to its Proper). Next, we Modelers assume that such a Nongeometric folding-Procedure, conserves all of the key functions that we Modelers normally allocate on board of our original Proto1-Object (self-consistency criterion, and emulation of the conservations we see in Nature).

We also assume that a counter-Reversal can occur at any time and unfold the Unit again. Basically, it seems that our elementary A-C-B Objects can freely switch back and forth into the Proto1-Proto2 configurations (details by Paper 2). When we think of such a Modeling artifice, we could imagine in parallel the regular emitting or absorbing of light from some orbital-Object: we basically watch Nongeometric and regard such an orbital as a Closed-and-Local Object of the kind of Proto1, where on occasion a part of the whole detaches by folding, and transforms in a NOT-Closed-and-Local Object of the kind of Proto2 (basically a formal Object which Moves inherently). Conversely, we may visualize the absorbing of light as a Nongeometric process where a Proto2-Object from the outside, counter-transforms and enters the orbital-Object, where it Merges with the rest.

The Model at this stage is very coarse, and does not truly contain details on that. Thus we Modelers must limit to explore the formal properties, if any, of the new Modeling Unit we produce by our presumed Procedure of the folding-like. In any case, those properties depend on the logical-geometrical configuration of the Object (formally its Nongeometric Asset), and from the set of assumptions we Modelers make when defining both the whole Formalism, and the particular Procedure for folding the Unit. Conversely, they do not depend on the particular Parameters [λ_{om} ; σ_{om} ; τ_{om} ; ν_{om}] that the inherent Object has in its Proper, either in its folded or unfolded configuration. That is why we assume that those two different Proper configurations track two different kinds of formal Objects.

Paper 2 provides the full Procedure in terms of assumptions, listing of practical instructions, and mapping-back into the 3D. We anticipate that a fully-folded Unit of this kind works very differently than a Proto1 (Massive-bodies emulator), and shows very different formal properties (see Fig. 15.b, right after the passage P1 which is the formal folding of a regular Proto1 Unit):

- P2: We get a Beating whose Slabs Double, and alternate regularly in a Local or Nonlocal state: the A-Geometry activates, lasts one Model pace of $\frac{1}{2} \tau_{om}$ seconds, than it switches to a B-Geometry, which lasts another $\frac{1}{2} \tau_{om}$, and so on. This is inherent and goes on ceaseless: same Time-like function we have in a Proto1, but now by a different Asset. We also conserve the integer weight we had allocated 50%-50% onto the A and the B of the original Proto1: the new Double-Slab, when it activates as either an A or a B, makes $\frac{1}{2} + \frac{1}{2} h$ on its own, and carries the full weight of the new-kind Object.

- P3: Geometrically, this makes an ever-bouncing half-Object. It shows as two neat states, where we have either a Double-Line LL, or a Double-Round RR. The new working Logic qualifies LL-OR-RR. In the starting Proto1 (sketch on its left), it was an L-AND-R: we say that in a Proto1, the two halves of the Object are always contextual. In a Proto2, we have instead that only one-half of our Geometry is there at a time: it weights twice by conservation, but it misses its Twinned geometric-complement. This gives the Double-Line of a Proto2 (regular human Geometry A = core of the Object), a particular status that qualifies Local-but-Open = False-Local = Nonlocal-equivalent. In short, the Line of the Object is Local (by definition), but the system and any regular Observer who is Closed and Local, cannot truly know where the Object lays with regards to regular Geometry A.
- P4: We suggest a possible schematic of our second-kind Object Proto2. This compares on the left with the former one of Proto1. Both are Beating Objects that are depicted in their Proper, so within the sketch we should think of some pace-to-pace animation. The Beating of a Proto2 produces a series of states that write for instance $LL \rightarrow RR \rightarrow LL \rightarrow RR \rightarrow \text{etc.}$. Instead, the ones of a Proto1 write $(L-R) \rightarrow (L-R) \rightarrow (L-R) \rightarrow (L-R) \rightarrow \text{etc.}$

By its own definition, a Proto1 is much static with regards to the Model Geometry. The new fully-folded configuration of the second-kind, actually works opposite way: a Proto2 is geometrically-unstable, and it tends to Move restless with regards to any Object of the kind of Proto1. This associates to folding 100% a Proto1, and by just common sense we cannot conceive folding an Object more than that: the restless-Moving property of any Proto2 (fully-folded Modeling Unit), makes the maximum inherent Moving we can have into the Model at this elementary stage.

Paper 2 gives a Procedure for calculating such a presumed formal Moving of a Proto2 with regards to any other Proto1. The picture we obtain at this elementary level, is the one of a formal Moving-like which is discontinuous the same way that our Time-like and our Beating are. It therefore comes out to be a series of formal Moves, that quote one Line-size of λ_{om} meters per any Model-pace of τ_{om} seconds. This is independent from the particular Proper Parameters we have on board of our Proto2, and it writes $\lambda_{om} / \tau_{om} = c$ [m/s]: we stress that this actually means, for us, the inherent Nongeometric c-constant of our Formalism (fixed proportioning ratio of any Line to its Time-like Scale into the Local side A).

Such a detail is important to flag out: the Model does not predict at all the speed of light. The actual thinking-chain goes opposite way: we Modelers remove any geometric preset, and barely start some formal and independent Objects by a presumed A-C-B construction; then we get a tentative proportioning ratio of $\lambda_{om} / \tau_{om} = \text{constant}$, that by evidence only relates to the way we handle formally our Objects;

then we fit eventually, by bare opportunism, such a presumed formal constant onto the speed of light. Hence we have, at this elementary level, a barely formal light-like emulator, which moreover is discontinuous and very coarse by itself.

Into the 3D, it resembles a spherical-like propagation of one λ_{om} -shell after another. Those formal shells expand-like in a logical-chain, and grow onto one another from the small Local area of origin, toward the geometric infinity of our P_{∞} . We definitely miss waves and continuity, and we only can speculate that they will come from the Relativistic side of our Formalism: the picture above actually concerns the Proper, and thus a much ideal viewing-like of a Moving Proto2 by a static Proto1. Our Papers 1 and 2, actually touch at just a little part of the Proto1-Proto1 interactions. The next block of the Proto2-Proto2 interactions, is largely under construction, and any conclusion on this point is too premature for the moment.

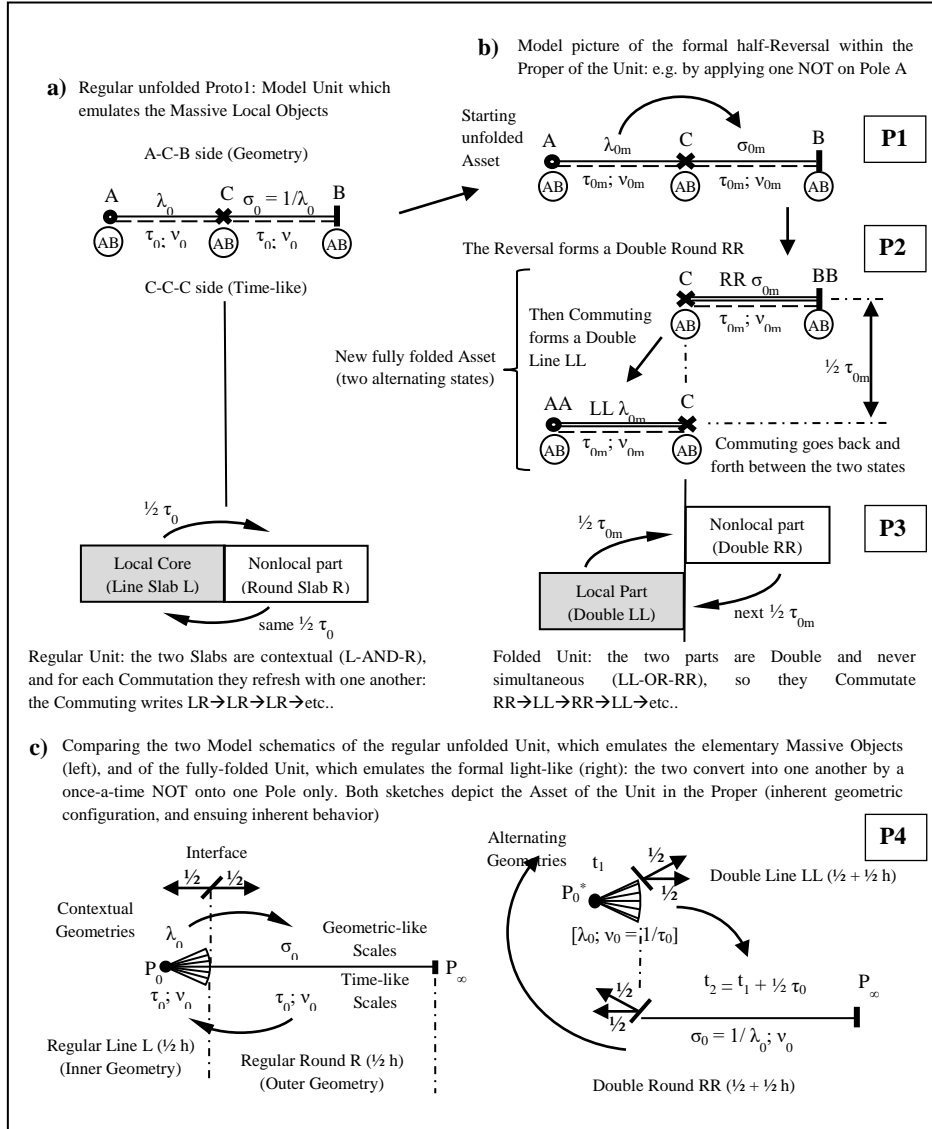


Fig. 15: Transforming Proto1 (right) into another Object which produces the light-like (right).

IV.3 Working by an adaptive Logic to transform step-by-step our Modeling Units.

We also make explicit other two unusual features of our proposal:

- Our formal Objects transform logically, and we use them as an adaptive Modeling Unit. This evidences for instance into the sketch of Fig. 15.b, where we basically apply one surgical NOT to Pole A of a Proto1. The practice of transforming logically our Objects, does not limit to their A-C-B construction in

the abstract. We Modelers actually set a precise h -criterion, to claim whether a formal Object qualifies concrete or not into the Model. As we always allocate one integer h to our starting Object, we keep self-consistent and require the Object to conserve when we think of transforming it logically. Our elementary Logics work concretely on concretely-preset Objects, so that the Logics allocated on boards tend to conserve with them. By Paper 2, we will see also that our logical operations apply onto the logical A-C-B skeleton (Fig. 12.a), so that there are no reasons for them to interfere with the concrete Geometry-like of the Object (Fig. 12.b). Our claim for transforming logically the Model Objects, basically requires this set of assumptions.

- Another Modeling tool, is the one we formalize in Paper 2 as multi-Layer Logic, and which produces a concrete Logic-Layering of our Objects. It shows for instance in our sketch of Fig. 12.b: there we have a top Layer that we assume to be geometric-like, but our Logic produces another bottom Layer, which can NOT be of the same kind. In short, we Modelers proceed by exclusion: we are sure that such a second and basically unknown Layer is NOT geometric-like, thus we associate it opportunistically to the Time-like of our Objects. The Logic-Layering is a very basic but unusual assumption of our Formalism: we work by an elementary YES-NO Logic, and the idea is that when a conflict prefigures, it does not actually end in a human absurd. Instead, the system just adds a supplemental Logic-Layer, and makes there a fifty-fifty accommodation. The original Layer which generates the logical-conflict, and the supplemental one which solve it, basically begin to work together, but on two independent Logic-Layers. A practical example is our Pole C of Fig. 12: this third Pole may for instance specify as a straight $(\text{NOT-A})\text{-AND-}(\text{NOT-B})$, which makes impossible for our Pole C to remain within the Model Field (absurd specification by the Modeler). By our Modeling artifice, we assume that the system can mediate, so that the same conflicting-condition writes $C=AB$, but on a logically-separated Layer: the C remains conflictual on the starting Layer, but can coexist as a mid-compromise on the new one. In this example, such a Modeling technique allows formalizing a Pole of a new kind, that we Modelers assume to be a 50%-50% mix of our two original kinds A and B. The three distinct kinds of $A=A$, $B=\text{NOT-A}$, and $C=AB$, make the elementary A-C-B Logic by which we start our Proto1 and the whole Formalism.

Our formal Objects are therefore very different from the ones we normally think about: each one of them basically makes a self-standing Modeling Unit. The idea is the one of a flexible construction brick: to produce new things, we do not need new bricks, but just to change the Logic of the brick. This gives the opportunity of exploring several Objects-like that we know to show very different properties in real life, and for

which our Formalism provides a common conceptual basis, as well as a much similar formal description.

Paper 2 details another Modeling artifice, which is worth to flag out here. We require that the elementary Logic we work by, could distinguish two items only if it has a criterion for (self-consistency of the Model operations with regards to the Model specifications). When we handle the elementary skeleton of our Model Objects, we assume that two or more items of the same kind Merge in one: practically, they confuse into the operative-eyes-like of that particular subsection of the Model. This is barely formal, and only applies to when we Modelers give no useful discriminating criteria to our Model (self-consistency by the Modeler).

The passage $P_1 \rightarrow P_2$ of our Fig. 15.b provides an example: there we claim that we generate a Proto2 by half-Reversing and folding a Proto1-Unit. Such a formal Procedure only works if we assume that the Model Merging operates into the passage. Due to the inherent Twinning of the two A-B Slabs of the Object, we assume that a Reversal on one of them produces a perfect copy of the other. The point is that we Modeler know, but only because we are human and supervise from the outside. The profound Formalism into the Object, at that basic level, is not supposed to have either logical or practical criteria to distinguish an original from its perfect copy. The reason is very plain, really: we Modelers, at that same elementary level, gave only a few Nongeometric instructions, and enabled the Model to just discriminate the logical-kind of the Poles and of the subassembly which make the Objects; hence the Model, when it sees an original half-Object and a copy of the same kind, confuses them and reads one (although of Double weight because of the h-conservation). When we claim that a Proto2 folds 100% and makes a Double-Slab, we really rely on such a very funding assumption which is the Merging mechanism (full details by Paper 2).

V. CONCLUSIONS AND QUICK OVERVIEW OF OUR EXTRA-DESCRIPTION OF THE PHYSICAL OBJECTS.

We stress again that our proposal qualify unchecked and unproven, but is conceived to align 100% with the regular human Modeling of human Objects. The hope is that the two could work side by side, to produce a combined geometric-Nongeometric picture of any given real life situation.

A possible advantage is that we can define some practical criteria for handling the human Nonlocal. We also declare explicitly our Absolutistic Model Time, hence the Relativistic Time-dilation becomes a direct comparison of two concrete clock-like functions on board of two concrete Objects. Our elementary start is much coarse and

very tentative, but there we may find a common conceptual frame for the formal light-like and for our Objects of the kind Closed and Local.

Table 1 summarizes the key news of our proposal (right), with regards to the regular Modeling of the Objects (left). The two make two human Models same-level, and they are in principle complementary and nonconflictual, as they adopt two distinct sets of working Logics (respectively regular A-geometric, vs. extended A-B-Nongeometric).

Regular human Modeling of Objects	Additional description based on elementary Logics
Attitude and standpoint with regards to Objects	
As humans, we are influenced by our physical shape, which is the one of a Closed and Local Object. Our natural tools include a Point-based Geometry and a Point-like POV.	Our natural settings maintain as a first Geometry A for the Local. For the Nonlocal, we add an inverse Geometry B and a Round-like POV. We include an A-B Logic into our elementary Objects.
We are the sole Object who Observes-Models the other Objects. Our POV stays outside the Objects we want to Observe-Model.	The Objects play the formal Observer on our behalf. We take their Internal POV to describe and standardize our A-B emulation of the Objects and of geometric Space. Their internal POVs also describe Model Relationships on our behalf.
General picture of Objects and of the physical World	
The Point-Mass Objects are a straight one-zone entity. Their quoting concerns their solid core only.	We adopt a composite Point-Mass equivalent. It is made of two Nongeometric Slabs which are Local-Nonlocal by Geometry A and B. They carry on board an individual Time-like counter. They adopt an adaptive Logic, so can transform and work in different ways.
The human sense of Space and Time makes a self-standing conceptual frame. We next think of Modeling Objects in there.	The Model Time and the Model Space work together with the Objects. The first emulates by a concrete clock-like on board. The second is made of either the geometric-like body of the Objects, or the relational spacing in-between them.
Practical handling of our human conceptualization of Objects	

<p>We normally Model by single entities one-by-one, and focus on just one single Object at a time. Then we describe its behavior within a given geometric frame.</p>	<p>We Model by logically-Twinned pairs. Our Model Relationships are totally deprived of regular Geometry, but we compensate and calculate by adding an appropriate logical-criterion for them. We basically have two formal Objects that Model and calculate each other on our behalf (details and practical examples by Paper 2).</p>
<p>The description includes the Parameters of the Objects, the Geometry, and the physical situation we want to Model.</p>	<p>The whole is maintained and holds as usual. We can however play a Nongeometric tool in parallel (if we want), and then visualize and calculate the same situation by our elementary Logics.</p>

Tab. 1: Comparing the proposal with our natural attitude toward Modeling the Objects.

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