

# WHAT IS WHAT THERE IS?

Agustín García Calvo  
Professor emeritus, Universidad Complutense de Madrid

## Abstract

In order to clarify the confused notion of ‘reality’ (‘existence’, ‘real Time’, ‘real numbers’), let us proceed to discover (A) a realm of ideal entities (‘all’, ‘nothing’, ‘only one’, ‘pure number’) and (X) a realm of something unknown (continuous, unending, unbeginning: now), to then understand ‘reality’ as a struggle or contradiction between (A) and (X). Links are tentatively sought from contemporary research on relations between mathematical and physical entities and from prephilosophical thinking or common sense with this discovery. Vigilance for vulgar and formal language tricks is maintained throughout.

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The question includes two terms, ‘is’ and ‘there is’, that have, in any natural or artificial language, two radically different values or senses: (-) ‘is’ is the indicator of a predicative joint, (!) ‘there is’ is a predicate or Verb that, by deictic ‘there’, links what is being said with the general field where it is being said.

Many languages do not have a phonemic indicator for (-), save for the comma-intonation in bi-member sentences; other languages, for values (-) and (!), have two not formally related terms, as in Sp. *es*, Fr. *est* for (-), Sp. *hay*, Fr. *il-y-a* for (!). A pure mathematical language does not need a term like ‘there is’, since deictic function itself is in principle strange to mathematics; only by a secondary development has a sign ? been introduced approaching in a restricted way the uses (!) (Peano [1912] and García Calvo [2002], pp. 17-8). That is also why I could not say in a mathematical language what I am saying here.

Meanwhile, the first ‘what’ in the question points out, as an interrogative, the void of a predicate, i.e. it asks for something to be said of ‘what there is’, with the second ‘what’ acting, in its relative clause, as the first complement (“subject”) of ‘there is’.

Nothing in the question implies or refers to things as ‘reality’ or ‘existence’. It is precisely the premature surreptitious admission of such notions (not to mention ‘world’ or ‘universe’) that has perverted the question and given rise to the age-old confusions we are attempting to dissipate.

Note that terms such as ‘real’, ‘reality’ and ‘existence’, ‘to exist’, do not belong to the common, usual language, but have been brought in from the theological-philosophical, then scientific, dialects (García Calvo [2006], pp. 3-8).

Trying now to answer the question, the first discovery will probably be this: reality is not all there is.

It is not important the meaning one may choose to give to ‘reality’: whichever of the meanings is

used, it is anyway evident that reality cannot be all there is.

What for the moment matters in the discovery is the exclusion of 'all' from the reality, whatever it may be, and also, consequently, of 'nothing', 'one' as 'only one', 'absolute', 'integer number', 'exact', 'definite'.

Sure enough, if 'reality' embraces the facts, relations, behaviour, persons, days, events, deals, traffic, noises of current vulgar existence, then it is clear that there cannot be in reality anything absolute or definite, since everywhere we find uncertainty, perpetual change, abiding by 'more or less', never 'all' or 'nothing'. There are, certainly, constant efforts of approximation and attempts to attain exactitude, definition, totality, nothingness, perfection, end, truth; but the perpetual failure of these attempts is likewise evident.

And that condition of vulgar reality reveals itself most clearly in the corresponding indefiniteness of the semantic vocabulary of any one of the vulgar dialects, where one cannot hope to find a closed totality of words signifying realities nor, consequently, a closed meaning of each word, nor therefore, in the dictionary, any truly terminable definition of any one of them.

If, instead, we take as 'reality' what in the studies of Physics is sometimes called so (not without confusion either with 'nature' or else with 'truth'), then, mathematics being the only language acknowledged as useful for Physics, and mathematical language being devoid of deictic elements like 'here', 'there', 'I' or 'now', the attempt to account for, "give reason to", 'reality', eventually 'nature', must proceed only by semantic routes, settling certain terms with a fixed meaning, and syntactical arrangements thereof, in the last resort, equations. So then we find that the result is, so to speak, a contest of forces (see for example Mugur-Schächter [2008]; Döring and Isham [2008]; and Foschini [2011]):

on the one hand, real facts, better observed or examined anew, defy one after another the mathematical formulations aimed to account for them, the richness and changeability of the data always overflowing the definite terms or/and the closed syntax;

on the other hand, those renewed efforts of mathematics to apply to realities more and more exactly (as though exact could be more or less) bring forth the development of mathematics itself in the sense of admitting among its devices real features as 'space', 'motion', 'time', or amplifying and making more subtle the pure notion of 'number', so that numbers might become real numbers and behave as real things;

so already with the simple transposition of triangles and squares to prove the Pythagorean equation, so with the arrival of 'vectors' as mathematical entities while endowed with real traits such as orientation and length, so also with the invention of infinitesimal or differential calculus and the notion of 'limit', the end of unending progressions (Garcia Calvo [2001], pp.50-8; 215-9 and 228-31).

The great success of mathematics in so helping Physics in its own development and service to real purposes and applications is well known; so too it is a commonsensical acknowledgement that those attainments do not say anything about a proof of truth: inasmuch as mathematics gains in reality, so

much farther it draws away from its old goal of attaining truth.

From much of the heretofore said, it already appears that, apart from reality, there are other things to speak of, on the one hand, things such as ‘triangle’, ‘definition’, ‘all’, ‘limit’, ‘end’, ‘truth’, ‘nothing’, that can be named and mentioned, but just to find that they don’t belong to reality, that’s to say, that they don’t exist, strictly speaking; on the other hand, things like ‘not-ending’, ‘continuum’, ‘nature’ as long as not reduced to ‘reality’ (even outside of semantics, ‘I’ or ‘now’) or, rather pedantically, ‘sub-reality’, one can name and speak about, yet escaping from reality by another path, as they sometimes by explicit negation reveal their unreality.

So then, we can reasonably, leaving reality aside for the moment, distinguish two realms where there are, but do not exist, things or elements we can name and speak about, but not as being real.

One of those realms holds items such as ‘all’, ‘nothing’, ‘(only) one’, ‘(pure) number’, ‘end’, ‘first’, ‘definition’, ‘truth’, all of which we, as real things that we are ourselves, must avow to be absent from the reality where we are born or, rather, constituted (‘the triangle’ can never appear among us, since what we find are triangles, one or another triangle), while at the same time we are bound to acknowledge in some way their presence as ideas that try to realise themselves as real things.

The other realm is simply something upon which these ideas try to impose themselves, something the ideal entities would gain reality from. This realm is, equally and by opposite reason, strange to reality, since we cannot touch nor know anything but things already constituted by an idea and name of each one of them. There is something, not nothing, in this realm, since otherwise ideas could not have anything to impose themselves upon, yet things in this realm cannot be distinguished nor really known; at the most, we can infer, by negation of the contrary, that there must be in that realm things in a vague plurality, due merely to the evidence that they cannot be one (nor all), a plurality strange to the idea of ‘number’, as not even each of them could have the ideal state of being what it is.

So, we have found, apart from reality, two types of beings and not-beings one cannot properly treat as things nor say that they exist, yet is forced to avow that there are such beings and not-beings.

To speak of those that are what they are (though we could not really speak of them) it would be suitable to gather whichever of the type we have found or could find, as ‘all’, ‘nothing’ etc., under one name, be it ‘God’, since it, staying clean of impertinent relics from religious usage, can centre well in itself, as PANTOKRÁTOR (Newton [1713], p. 513) every instance of ‘power’, ‘law’, ‘order’, ‘authority’, any forces or ideas that “come from above”, and, to sum up, the property of ‘being what it is’, as It once declared Itself to Moses (Exodus, 3-14 ) or as Parmenides’ goddess presented It, as the only truth (Parmenides, B 8 D-K vv.59-60 and 73-4).

Remember, however, that, God being mathematical and mathematics lacking deictic elements, items like ‘here’, ‘I’ or ‘now’ are strange to this ideal realm, where they ought to be taken in absolute, so that ‘here’ would be ‘nowhere because everywhere’, ‘I’ would mean ‘nobody in particular, being the only one there is’, ‘now’ would amount to ‘never or all the time’; or rather they would be automatically converted to names of themselves, ‘the “here”’, which is not here, ‘the “I”’

(‘the “me”’, ‘the “ego”’), which is not I, since I am not that, and ‘the “now”’, which is not now, but would eternally lie still as an idea of itself (Ferreirós [2006]).

The other is the realm of the unknown, which also, naturally, does not exist, but is nevertheless somehow present, as there is always some unknown, unless one closes oneself off in the faith that all is known, or, well, that it will one day be known, but anyway all. It seems however a thing of common sense to acknowledge that there is, either farther beyond or deeper within, something that, without being known or named, there nonetheless is.

To this realm certain words have tried to semantically refer: so ‘nature’, generally mistaken for ‘reality’, so ‘infinite’, with the fatal embodiment and consequent deactivation of the negation, so that we are left with a named, closed infinity, a ‘finite infinite’; so in the old Theology, God being definite, since he is what he is, and also infinitely, for instance, good; so in the foundation of Arithmetic, where the series of numbers must be finite, as having an end, ordinal  $N$ , and a beginning, be it ‘1’ or ‘0’, anyway the numbers being all, while it must be equally infinite, since the number of even or of prime numbers is the same as the number of numbers (Dedekind [1888]; Cantor [1895], [1897]).

Remember, not to detain us too long, that pure, ideal numbers ought, as pertaining to God’s realm, to be all, but in no way endless, as ‘without end’ would mean ‘without being what they are and each of them is’, so to get lost in the unknown realm. As for the numbers we count things by, they can only be endless like the things they count, in the sense that they never really could finish counting and being counted, so that the series is incomplete, there always will be unknown numbers, new primes to be discovered; but this is no proof that they are truly endless, sinking in the indefinite realm, but simply a proof that they are, as the realised things they count, real numbers, taking in, if you wish, the double meaning of the term (Gödel [1931]).

This realm being unknown, every attempt to know it (as “nature”, say) can come to nothing other than to render it known, i.e. convert it into a reality (a word with semantic meaning, eventually involved with real numbers), that is to say, make it what it was not. Hence, the negative way would be the sole honest way to speak or reason about it. Indeed, by the same token, it is only the imperfection of things and of oneself, unwholeness of facts, failure of business, lack or excess of beauty or richness, unhappiness, desperation, that makes us feel (don’t say know) it and so admit the presence among realised things and in ourselves of something like “infinity” or “nature” (Busch and Jaeger [2010]),

not in the sense that it is the cause of misfortunes, needs, lies or deaths, since that would make the unknown anyhow physical or juridical, but simply that one cannot cleanly understand whatever happens without discovering something without end, name or consistence, where order and law and definition are always trying to impose themselves.

Indeed, once these two realms are discovered, cleansed of the ideas that ordinarily falsify them, and by way of opposite reason their presence or ‘there are’ acknowledged, it may be easy to turn now to reality and understand it and how it lies in the midst of the general ‘there is’:

Don’t anyway forget that we take the verb ‘to exist’ as corresponding to ‘real’ and ‘reality’, so

that 'reality' may be in some uses equivalent with 'existence'.

Resorting now (harmlessly, I hope) to the topical image of high and low, we might say that reality lies in the middle of the higher realm of ideal entities, totality, unity, nothingness, order, law, triangle, sphere, pure number, mathematical God, and the lower realm of continuous flowing, vague plurality, indefiniteness, uncountable richness, unending unbeginning, rhythmic unmetrical waves of unnamed waters, anything inasmuch as not nothing nor all.

The topical image is, of course, founded on the vulgar ingrained habit of saying "from above" for anything that comes from government, ordinance, law, authority, while whatever arises contrary to the superior instance comes from below. So also we might see the image as a cleansing of the age-old fancy of sky, aether, God the Father, falling down, raining or thundering, on mother earth, "from top to bottom". As for '(universal) gravitation', the now and again revived problem in quantum mechanics, it must at least be clear that, while real gravity (i.e. interaction between bodies) could eventually give a sense to 'high/low' and 'falling', 'universal gravitation' cannot refer to any dimension or direction, it would be a question of reality losing itself in the other there is (Newton [1713], pp. 512-5).

Anyway, we must leave aside questions about 'high/low' and 'orientation', i.e. any question of 'space', since in this discovery there is no space, physical or geometrical 'space' being something internally pertaining to reality, whatever we may later find out about 'time'.

What truly matters with the "situation" of reality between "high" and "low" realms is to understand reality as a struggle or contradiction (the Heraclitan "war father of everything" Heraclitus, B 53 D-K), this struggle manifesting itself everywhere, from stars to atoms and to ourselves. It is the perpetual contention between 'being' and 'there being', the ideal need and order for things to be all and numbered and each of them exactly being what it is, against indefiniteness, not-ending, freedom of things to lose themselves, to not be known nor named.

The struggle can be described as an interplay of resistances in two opposite senses: on one hand, things are (and we, qua things, are) forced to obey the law of truly being what they (and we) are, against which a resistance perpetually arises, the never wholly constituted things reclaiming the liberty to pass and not be; on the other, against this always renewed flow of uncertainty, disavowal and failure of acquired order and knowledge, the superior instance of power must develop (for reality is never definitively constituted, nor surely known either) constantly renewed means to impose a more and more perfect (approaching geometrical) order, a more and more sure (approaching true) being and definition.

That is the war, this is reality; and I dare suspect any Philosophy or Science disregarding that contradictory setting of reality to be condemned to once again mistake 'reality' with 'nature' or with 'truth' and so to do service to law and faith, believing reality to be either natural or true:

I find that an interest has lately woken up among philosophers of Science about the function of mathematics in explaining natural or physical processes and the so called mapping account of mathematical on physical structures (Batterman [2010]). It seems doubtful whether it is a question of mathematics clarifying natural facts by idealisation of something otherwise turbulent, or rather of discovering in physical events (as critical points for the change of states or for crystallization) a real

ideality. Anyway, we must take into account that the entering in reality of mathematical ideals is twofold, first 'number', later 'limit', and that contention between the one and the other may easily be mistaken for the fundamental struggle of reality. As for Nature herself (allow me the feminine), she can certainly, and must, "learn mathematics" i.e. assimilate, as necessary for realisation, ideal constituents; but it is God, not she, who is the mathematician.

So far, for things in general and ourselves qua things. And, by the way, as Physics itself has come to see, it is vain and confusing to maintain the distinction between 'reality' and 'information', since it is just the war of information against resistance to information that constitutes physical (and spiritual, dreamy, political, scientific, poetic) reality; but, in the last resort, the distinction is the same as the separation between 'us' and 'things' (see for example Lyre [2003]; Shevchenko and Tokarevsky [2007]; Timpson [2008]; D'Ariano [2010] ; Niestegge [2010] ).

Indeed, the stubborn opposition of 'man' to 'things', 'observer' to 'observables', 'subject' to 'object', must be (as a mere patriotism, as deceitful as all of them) pitilessly abandoned, when furthermore even some physicists seem lately inclined to sometimes attribute to things, or at least to subatomic elements, some features such as communication, conscience or free-will, traditionally reserved to humans (see for example Conway and Kochen [2006]; Gambini and Pullin [2009]; Bondini [2010]) .

Yet, should we nevertheless ask ourselves what is, apart from the common law of existence as things, what specifically distinguishes us men as a peculiar type of thing, it is then, I think, the question of 'time' which most clearly would carry out the task. Sure enough, we can rather impartially retain as exclusively ours, human property, this: to know, beforehand, future, death.

Never, anyhow, have the other things (beasts, trees or stars) given us any reason to suspect them of sharing this knowledge (not 'fear' or 'hope') of the future (when birds prepare their nest or spiders leave the prey anaesthetised for further consumption, the need or order to do so is evidently inserted in the agent's mechanics and does not involve any knowledge or prevision of the not-existing); indeed, the ancient habit of designating men as 'mortals', though induced by opposition to gods, more profoundly may be understood as opposing men to all the other things.

Now, this specific condition of men, which we could regard as an exaggerated or redoubled obedience to ideal ordering and law, has brought about, among other consequences for psychic and political behaviour we must not now go into, many inveterate confusions about the notion of 'time', which appear also in the vulgar usage of the word, but stand out most sharply in the (even mathematical) language of Physics and Philosophy, with questions like (ir)reversibility, the "arrow of time", or even why we cannot remember future things (Ostrowski 2011]).

Let us try, not to resolve, but to dissolve the problem. Common sense (if we are allowed to play with the double meaning of 'common') tells us this: there is only one sense of "time" (which furthermore means that, there not being an opposite one, it is no real sense), namely, that things that have not passed come to pass; and the reverse (admitted by confusion of 'passing of things' with 'passing of time'), that things that have passed come to not pass, is simply a nonsense.

That is what in truth passes, unknowable, uncountable, alien to any information, now. See for example (Garcia Calvo [2006], pp. 27-72; Callender [2007]; Placek [2007]; Harrington [2010]).

Another matter is the not true, but real, Time, grounded on the conversion of the not existing (though perhaps feared or hoped for, like the always future death) into facts, of promise or menace into information (could we say, for the sake of our languages, conversion of the modal Eventual Tenses of the Verb to a value of Indicative, Predicative), a process that will be afterwards translated to the past, for the ordering of things already realised, past and somehow vaguely remembered, into a kind of counter-future.

What we have then thus established is the real Time, that is, properly named, a space like the other real spaces, a room for things felt or imagined to be situated: a Time “for the eye” (as indeed ideas are primarily ‘view’), not “for hearing”, as the passing away of things (Barbour [2000]; Kosyakov [2000]; Garcia Calvo [2002], pp.287-98).

It is this spatial Time where human existence (sometimes slackly called life) is compelled to be counted by years, minutes or centuries, where social, personal, financial, historical deeds or business are set down; and it is the same Time whereupon Science of Reality can draw its figures or theories and write its calculus (since mathematical language cannot be other than a written one) and so try to account for or give reason to reality (perhaps mistaken as ‘universe, ‘nature’, ‘all there is’), always leaving out, what is truly out, things or rather unsolvable problems like ‘unending’, ‘continuity’, even ‘gravity’ (as being maybe a question not internal to reality and movements of its macro- or micro-bodies, but a question of reality itself falling in the not-ending) and, most intimately, no-things such as ‘now’, or ‘I’, always trying in vain to be reduced to ‘the now’ or ‘the I’.

Well, then, ‘reality’, ‘sub-reality’, ‘super-reality’, that is what there is.

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