

To Evaluate is a Self-Evaluation too Dialectical Features & Knowledge

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Introduction

When we talk about evaluating the immediate reflection is thinking about education. It's a wrong reflection, as we'll show. But before, we do not want to fail to state that there are no one-way evaluations, from an evaluator to an evaluated one. An evaluation is like a movement – bodies don't move (scandal expression for many readers). The movement itself does not exist. There is only movement in relation to a referential. Argument question: what moves is the body or the referential? Accustomed, as we are, to a culture of "blah, blah, blah.....", in which words are nothing more than that, "words", without prolongations and consequences, some readers, even those who were scandalized by some aspects of the statements we have just made, thought "ok", let's go on. But there is a consequence that we do not intend to let go without the proper lessons being taken. It is that, logically (there is, it is true, always the possibility of considering that logic is "a potato" and does not matter), when there are a "bad evaluation" two possibilities are imposed:

- or the phenomenon assessed has a poor quality in what has been assessed (there will always be other complementary assessments that should not be ignored, such as the limits at which the assessment was made, or the resulting side effects, or the long-term effects that should be taken into account.
- or the evaluation criterion is wrong or has been misused.

Evaluating is never an inoffensive or harmless option and even less, in most cases, exempt. Evaluating is always a complex

process. Assessing is a phenomenon in which it is only possible to camouflage the inherent complexity when subjectivity is overtaken by a power relationship. A power relationship that means giving body to the relationship based on "I who have the power, I evaluate you according to my discretion, which is the only one that is worth". Which, unfortunately, often happens. Thus, the transformation of evaluation, which is a bi-directional (dialectical) process, in a unilateral event and with origin in a domination position. There would be much to debate on this topic, but let us continue, leaving this discussion, which, however, we consider fundamental in the action of individuals and societies, for other areas, in order not to lose the intention and objectives of this article.

Although, in general, we have not integrated the above-mentioned notions, or ignore them intentionally, and are constantly evaluating (it is true, we do many things without realizing what we do, why we do it and what for do we do it):

- In health;
- In sport;
- In economics;
- What we wear (maybe more what others do); what we eat; what we want; what we're going to do;

And we even argue and make excuses when the answers don't, please us or make us uncomfortable. We evaluate, therefore, without thinking too much about what we are doing, considering

even, often, that the stimulus we receive in the evaluation process (or the absence of them), are directly and immediately linked to the evaluations we make and translate a reality that we want to examine. We forget, in this way, even when we have knowledge and awareness of the phenomenon, the whole sequence stimulus / sensation / perception, the differences that exist and the implications that have these interpretive processes. And, however, the variability to which they are subjected is evident, for example, when we build an opinion on a good mood or bad mood day. The same stimuli provoke different sensations or even perceptions. A neutral, impartial and independent evaluation is not possible (we feel the rays and sword with which some would like to attack us now, in a positivist position of "worship" of the unachievable exempt and pure processes with which they dream). Unless you are not evaluating anything and a simulation of evaluation is made accepting that a response X is assigned a value Y, and a response Z is assigned a W value - it seems like an evaluation, but nevertheless... - we must accept that X, Y, Z and W have only the values assigned to it arbitrarily by the evaluator. Einstein was even more right than he imagined (an imagination that was definitely an enormity in him), alerting us to the triple relationship that should be considered in scientific thought - the dialectic between the phenomenon / the sign / the observer. It is a process like demonstrations by $a + b = c$, another enlightening example in relation to this problem. The value of a and b always depend on the number of digits that exist to the right of the comma ($a,0000 \neq a,00$ although it is similar, and we can consider them equal if they are both within the precision limit we want). This means that c, when operationalized is always an approximation (which denies the "proven by a+b"), depending on the number of digits to the right of the a and b comma.

[Note: it may seem like unimportant details, platitudes, but let's not forget that when we leave the conceptual framework of mathematics and move on to "concrete things", a,00 certainly have different costs from those with a,0000; with also different meanings and uses, with precisions and eventually rigors that are not quite the same - differences that, as below we will show, influence "the world in which we live" and the lives we live]. Karl Popper has also solved these meanings for us, warning us (in Conjectures and Refutations) that nothing that is important can be demonstrated; and that we must be satisfied (very satisfied, because then we will not be making mistakes, possibly in a well-intentioned but always absurd way) with the possibility of refute (thus building science); and that, therefore, consequently and consciously, we can make the necessary corrections to what can be known with greater precision and/or rigor (which means that science has advanced and knowledge has improved). And as if all these arrangements that we make were not enough, which, as we have just seen, certainly lead to mistranslations and to make mistakes and inaccuracies only excused when we cannot do better. But do we try? Or we're not even aware of it? Ignorance or laxity?

On top of that, we usually evaluate with flashes. That is, in a

world in constant change, dynamic, therefore, we remove from phenomena that are processes (consequently, in permanent motion) some events (flashes, of course, stopped to give us time to observe and evaluate). We have thus created a "first impression" that, once made, is difficult to change, even when we are aware of its fragility.

If we could not do better, it would be acceptable (life, even in the field of science, is made of compromises and adjustments). The problem is that, and also in the name of rigor and/or precision, there are still those who refuse (even in the field of science) to construct the conjecture that encompasses the information drawn from the various "observations under the microscope", in a coherent explanatory framework (a framework that will always have many blank spaces, which we go beyond through the necessary extrapolation from the information possessed). This is like the example of a time when systematics the only thing they could do was to make collections of animals or vegetables that they wanted to understand, that after being "murdered" were "pinned" on beautiful exhibitors. Methodologies are built to know not only the security we have, but also the insecurity with which we must live. Ignoring it is not only fantasizing dreams, but also being willing to pay its costs (which some seek, or pretend, ignore).

Today we cannot ignore that when we evaluate, we make three types of mistakes:

1. At the level of the phenomenon, for example, because we are using only the stimuli that we are able to detect (using the sensors that we are able to use, which we call "the senses", which for a long time we thought were five, but which today we are aware that there will be a few dozen, at least; we are talking about the stimulus/ability to detect it; the phenomenon is complicated if, as we warned above, we want to consider the sensations and perceptions inherent in the way we interpret this information);
2. At signal level, for example, because in addition to the enormous limitations resulting from what we indicated in the previous point, the sensors (e.g. Pacini's corpuscles, for pressure; Meissner's corpuscles, for touch; Krause's for heat; Ruffini for cold, etc. , in order not to enter this space to more complex combinations), are dedicated to specific functions and when activated can even give misrepresented indications, because they identify the stimulus they are dedicated to and may not correctly identify the stimulus received;
3. At the observer level, for example, because the way we integrate the data (stimulus, sensations, or perceptions, or even a complex set of several of these possibilities) depend on the established knowledge and information treatment strategies resulting from adjustments made, sometimes for thousands of years, which result in not easily adapting when the context changes and requires other forms of reaction so that responses can be efficient.

We also extrapolate because what we are evaluating (confronting a reference) is mobile and is constantly changing, but that, by the “flashes” we do, we turn into something instantaneous and therefore immovable, in an event. Now the reality (whatever this reality is, so as not to deviate from the direction in which we intend to follow here) is a process, a sequence of events, in permanent change, which is seen with some, few, indicators, among the thousands that could be used. These are simplifications that are fundamental to make the context in which we live, “our world”, “livable” and understandable for the scarce resources we have, so that the costs do not become unaffordable, so that life can take place. But it’s simplifications... and they have consequences that today we cannot ignore... so that the mistakes made do not spoil what has become feasible with the capabilities we have mastered and the potential that we can exploit.

The adaptations of the past, which had their time and their usefulness (so much that we managed to survive, rather than the many beings who “stood by” because they could not respond to the challenges they faced) are not, however, eternal and the transformations (efficient as far as possible) must continue. Not only to survive, but also so that what is offered to us (with costs, of course, as happened in the evolutionary process under these millions of years that make up “our past”) can be as well used as we are able to do so.

[Note: some withdraw from all these processes “obligations” and “rights”, “evolutionary senses” and “responsibilities”, “implications”, which, we believe, are mere extrapolations of their reference frames and the strategies they have removed from other contexts. Without even trying to understand the functionalities and dialectics that were at the foundation, in the foundations, of the construction of knowledge that they now intend to use as dogmas. Or, even worse, that they seek to impose on us, based on the conclusions and errors to which they have reached in the superficiality and lack of solidity of their elaborations (elucubrations – this is, intense meditations and vigils ... but, of course, little achieved)].

However, it will certainly be legitimate for us to challenge and to call into question what the components of the simplifications where often not made for. Mistakes that in their time might even be right to be, but the world moves (yes, the movement does not exist), if we use as a reference what it was just before. And as one of the strategies to remain in this process of transformation we evaluate and classify, looking for references that allow us not only to find a path, but the best way. Knowing that “the best way” is more of an ambiguity with which we have to live, but that it is much better than the certainty of the “path that we are forced to walk”. Ambiguity is not always bad. But let us not confuse the ambiguity necessary with the ambiguity sufficient to rest our consciousness. Let’s not forget that $a,0000 \neq$ to $a,00000000$.

We’ve simplified a lot. But a simplification, all these simplifications in man functionality, are not random. They are the

product of a clearance made during millions of years of selections and consents, which, eventually, may be really outdated, because everything (the phenomenon, the signal and the observer) is in permanent change and transformation.

But despite all the simplifications and ambiguities we develop processes, strategies, operational modes, tactics, etc., at least as wonderful as the technologies and gadgets that fascinate us (and entertain). Returning to simplify a lot, “A LOT”, and simultaneously, grouping, see:

Example 1

While from the age of about three we can realize that:

1. Contrary to what we once imagined before, an object, a toy, for example, does not cease to exist, even if something gets in the line of sight and we stop seeing it and that if removed the obstacle that prevented us from seeing it again appear;
2. An object, seen from different points of view, even with very diverse aspects, remains the same object.

But we are usually unable to have a unifying view of the context of which we are part (some still think – “where we are”). Some are even able to “go to nature (green preferably)”, as if they were not a part of that nature; and if the objects were colored and color is not a matter of light rays (so many errors in a simple expression!). So how can we put together strategies, integrative visions of a functionality that can only be used fully if seen as a whole and in a global way?

Example 2

On the other hand, there are coherences and balances in cultural factors that have been around for centuries.

Aristotle, Plato, Zeno of Eleia, thinkers who lived more than twenty centuries ago have deeply marked European history and culture from Ancient Greece to the present day. Not in a homogeneous and uniform way, but in accordance with the trends and interests of the contexts in which they prevailed (and where evaluated). Aristotle for the “certainties he gave” and “imposed”, in a centralization of opinion. Plato for the doubts he raised (see, in particular, “The Cave”), the questions he imposed. Zeno of Eleia, almost ignored in many contexts, who, with his paradoxes called into question the guarantees and certainties of those who listened to him (what, some didn’t liked).

All these processes, which we indicate in an abbreviated form, are only possible through an assessment of the positions they have taken, the context in which the evaluators were situated and the interests they had. Selections that served interests and gave rise to misperceptions, often not innocent (see, the interpretations of Plato’s Republic, sometimes very far from what he said), generating coherences and balances, certainly not randomly, in a vast context (temporal and spatial – about twenty-three centuries and Europe in general), which implies an intentionality and depth, as well as the existence of the capabilities for their exercise.

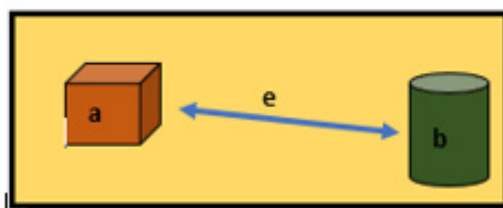
Example 3

Man is a complex being that must be seen as a whole, a whole that imposes an individuality (an apparent paradox), a functional unity that encompasses things so dissimilar, functional aspects, such as - thoughts, affections, feelings, emotions, empathy, love, revulsions, rejections, displeasures, cultures, civilizations, rhythms, mind. Also, at this level we usually simplify, forgetting (or ignoring) many of the relationships that are established and the dialectics that happen. There are certainly overlaps between these concepts, which is natural, because they were generated in different contexts, with different intentions and interests, from different paradigms. But if instead of "stumbling on words", we try to evaluate the

meaning, significance and signification of all these aspects in the evaluation we make of man, it is easy to understand that the man who is the object of evaluation, but also his author, has capacities and potentialities that deserve to be explored and deepened.

In Synthesis

Evaluation, a relationship process and therefore made of dialectics, requires special attention, not only, nor fundamentally, in the integration and classification in a frame of reference, whatever is used, but in the underlying factors it may reveal. There is no predetermined, pre-established, order. But there is no disorder either. We have, thus, in a graphical way (Figure 1):



Body **a** is at a distance **e** of the body **b**.

- If **a** moves to **b**
- If **b** moves to **a**
- If **a** and **b** move to each other

In any of these cases we can determine the height at which **A** and **B** will eventually collide, using the formula e (space) = v (speed) \times t (time). Being v the speed of **a**, **b** or **a+b**, as appropriate.

But, even by making this statement, nothing requires **a** or/and **b** to move towards each other.

Nor are the reasons why they will eventually move. However, a functional, basic model was created, it is true, but a model (which does not exist in an integrated way in relation to the functionality of man, and to which we also try to contribute when we present below the proposal of the concepts of ARAT and Mental Scheme).

There is no command to determine whether to move, or the reasons why they will eventually move.

But there is also no disorder that prevents us from knowing what will happen if they eventually move, because there are rules, principles, etc., that define coherences and balances, which we can try to understand and explain, to interpret the dynamics (of what happened or will pass).

We therefore have different types of knowledge, which allows us to:

- know the existence (having data and information about) the phenomena;
- interpret (e.g. dynamics) phenomena;
- classify and group phenomena by their similarities;
- distinguish different types of phenomena;
- ...

When we try to interpret events or processes (sets of events), we use combinations of these different types of knowledge, with dosages we try to be the appropriate ones. We obtain, in return, repositories of knowledge or data, understanding, explanation, knowledge, wisdom, etc.

The triple relationship that Einstein proposes to us between phenomena / signal / observer, becomes clear here as well. The phenomenon we detect, the signals we use and, consequently, the strategies of the observer form a whole that must have coherence and balances (which is not confounded with being true) so that the cost/benefit ratio is acceptable.

When we evaluate is this whole set, which we present here succinctly and briefly, what is at stake. The phenomenon (person, thing, dynamics, etc.) evaluated and the evaluator establish dialectics that gain efficiency (effectiveness?) according to the coherences and balances achieved and the objectives pursued. It is not the quantity involved in this whole, but the quality that mark the income (ratio, also a relationship, between the invested capital and the profit withdrawn) that will be obtained.

Figure 1:

There are, therefore, rules, principles, ... and the path is made, walking. While it is walked. The question is wide, because we want to ask ourselves about the overall functionality of man and not some of its specific aspects (naturally studied in the most varied sciences and areas of knowledge):

- What changes, how it changes, when it changes? And why?
- We are not satisfied with the answer: "Because that's the way it is!". We want to get to "But why?". The reasons and the roots!

Solutions?

What we've did above was, in a very brief way, to try to identify the problem resulting from the ambiguities and paradoxes caused by the frame of reference that we use when dealing with "evaluation", a constant in the functionality of our lives. An evaluation that is such a natural and constant process that we have stopped consciously attending it to become, say, "automated".

But an assessment that is fundamental in the functionality of man and his intentions. It is the question that gives rise to research work (the generator of the work) and, perhaps, 1 -the determinant of its essence, 2-the diagnosis preceding a treatment, 3-the question that leads to a forward-looking and projection attitude about the future, 4-the release of the search for the "whys" that triggers the feeling of the need for a cause/effect relationship to give meaning to the actions to be developed by man and 5- the collateral relationships that shoot, perhaps even from the emotions and feelings that serve to control the process, facilitating it or seeking to inhibit it, of action that man (perhaps even life in general) proposes to carry out. Evaluating is, therefore, much more than "giving a grade" (which sometimes changes lives and, consequently, can be much more than a simple banality), because it is at the origin of a set of reactions that may have the effect of defining and characterizing man himself.

However, to evaluate, to make an assessment, it is, with the information available, which will never be complete and exhaustive, to establish a relationship between today and the present, which should take into account not only the phenomenon that is being evaluated, but also (using the triple relationship proposed by Einstein for the scope of science, but which we consider legitimate to extrapolate to other fields) the signal used (how to carry out the evaluation) and the observer (the director of the evaluation).

Evaluating is, therefore, being evaluated too.

To evaluate, sometimes, we do not need more data (apart from the cost/benefit ratio that data collection implies, more information does not necessarily mean better information, see what goes on with a simple caricature that can, in its simplicity, focus on the essential traits of what is caricatured, according to the objective pursued), but to give another storage to the data (pieces of knowledge) that we have, perhaps with other methodologies, logics, ways of acting ..., the scientific revolution of Thomas Kuhn

and the respective paradigm shift that leads to the "new science", and even allows to identify the areas that should be explored to gain more consistency, that is, new coherences and balances, new perspectives and points of view, so as to allow us to enter solidly into new territories, respond to other problems, gain efficiency.

It is also seen as the "academic" evaluation that apparently aims (poorly) to verify the correspondence between what the student is able to reproduce from the established program, it is a mere simplification of a more complete process that encompasses (correctly), even if in an implied way, that the following premises are true:

1. that reproducing means understanding or at least mastering the reproduced knowledge;
2. that the evaluation can assess (by sampling or otherwise similar) the mastery of the program by the student;
3. that the programs contain the useful knowledge (the essential, at least).

As it is evident (evident - risky concept in science, which we have tried to combat throughout this article... and not only), if some of these premises are not true the withdrawn syllogism is false. Simplifying can, therefore, lead to errors that we will hardly be able to correct unless we understand the functionality of the process.

How to Perform the Break?

The realization of a rupture seems a difficult process. As it is always to find out how we can go into the unknown.

In this way we go a little further and after the presentation of the theme and defense of a conceptual framework in which, we repeat, in a very brief and succinct way, we define the rationale of our proposal for a rupture that we consider key in the context in which we live today, so that we can take advantage in a more rational way (and not as it is done now, through successive crises in which the essential is lost, given the urgency of responding to the immediate). Consequently, without a strategic vision that safeguards the coherences and balances even in the short term (and, thus even less in the medium and long term) the technological wealth that we have, the result of millions of years in which man invested lots of work, sweat, tears ...and lives.

A technological wealth that, perhaps for the first time in the history of man, in which the problem is the management of abundance, of plenty (see, as examples that we think clear - obesity, the "excess" of information, the difficulty in choosing gadgets, toys, with some functional utility) for the generality of the population (at least in some societies, the others will follow ... unless), than the filling of the needs. A situation that, paradoxically, leads to more dissatisfaction (and of course, successive crises - and the "dream of the tragedy") than the urgency of finding the basic needs to survive, when there was no time to think about the misfortunes suffered [1-14].

This, we think, is neither logical nor acceptable, so solutions must be found and leads us to consider a rupture which constitutes a decisive technological leap, including this time the man himself in the transformative process, as we defend in a more consolidated way (a book allows us to go deeper than it is possible to do in the framework of an article) in a work to be published under the title "The Next Decisive Technological Leap" of which we have been presenting particular aspects, to assess the acceptability of the positions assumed, as the examples in the following list:

Operationalization

In this sense we propose two conceptual tools: the concepts of ARAT and of Mental Scheme. Complementary in their functions and not contradictory, although the concept of ARAT aims at the way of managing change and the concept of Mental Scheme contribute to the consolidation of the positions achieved.

It may seem excessively simple. It is common in the world in which we live to love and to value the complicated (not, even, the complex), the hidden and the esoteric, in a process that contradicts the transparency that would allow us to overcome the fears of the unknown (and the dark), the ghosts of ambiguities and, even, the manifested desire for equity.

But, as we have set out above, the urgencies of the immediate lead, sometimes to endless alleys that once trodden become labyrinths from which we hardly leave, in a process that below we will show the features that are at the base. The ancestral fears remain by processes that were developed for millennia, where the use of the fantastic and of the sacred sought to fill the gaps of knowledge that did not yet exist or was manipulated for the benefit of those who dominated minds and wills, in a way not always evident.

Two Concepts - Tools for the Rupture

The change (everything changes, everything is in permanent transformation), as we've presented above, it is not done simply randomly, if we go looking, conscientiously in the suitcase of causalities. Science itself is an argument (we assume that coherent, but without running the risk of guaranteeing it - "permanent doubt is also a strong argument in the field of science") of this position, not only for the "revolutions" (see Thomas Kuhn) that it itself lives, but also for the doubts it raises and the questions it asks by the opening of new horizons that it provokes and by the power of the methodologies it proposes, ...

As we have seen in the problem of knowledge that we present above in a graphical way, it is not enough to create repositories of data and information (even in the framework of "big data", in which the data bases also must be treated) so that the understanding of phenomena can be acquired, so that knowledge can arise and so that wisdom can bear fruit (without what is merely ostentatious).

The functionality and dynamics of man's transformations (of life?). ARAT - Aggression/ Reaction/ Adaptation / Transformation

The change is not the result of simple accidents or incidents, which, however, certainly take place. An attractor in the process of transformation of man (of life?) is that when an aggression is suffered (within certain limits), it will trigger a reaction that results in an adaptation (temporary or permanent) thus causing a transformation -ARAT.

Naturally, the ability to overcome aggression (an aggression can be a word, an emotion, a feeling, a hormonal imbalance, a thermal shock, ...), to react to it and adapt to it, and to carry out the necessary transformations, both to the new situation and to similar aggressions in the future, has its limits and costs. Thus, we have an interval between maximum and minimum values, maximum and minimum limits, in which survival is possible, with coherences and balances that determine an individuality. An individuality (person) with its own coherences and balances, which may vary according to its limits, which determines a certain continuity.

It might seem that change can thus arise almost spontaneously once there is an "aggression" that leads man (life in general) to react, in a process that would quickly become uncontrolled by the diversity it imposed (which would hinder the development of reproductive or even collaborative processes). However, we have the limits of the sensitivity, limiting requests to react and therefore adapt. And, on the other hand, in addition to the ARAT process, which, we stress, aims to be a tool for the management of change, there is another phenomenon, complementary, but in this case a stabilizer (which allows the economy of permanently restarting the same processes and the consequent making difficult the possibility of improvement), translated into the concept of:

Mental Scheme

An action performed by a man (a living being?) results from a complex set of functions that must be coordinated and integrated. There is, therefore, a strategy of action that encompasses the objectives aimed at, the intentions, the organic action, the adaptations that prepare the action and the return to the state of rest, The whole of the multi-role functions that constitute an action is integrated into a broader strategy and action strategy (the overall strategy and the specific strategy), the different tactical options, the operational modes, the technological capabilities (whether at the level of human hardware, software or the interconnection of factors of both).

The existence of a coordination (or intention of it, even if not achieved) results from a scheme, a project of the wholeness (of the overall strategy and the specific strategy and its components that we point out succinctly above), which necessarily has a representation in soft and in hardware, which, as we all know, has a local specificity, which can conflict with other diverse local specificities, and a coherence and overall balances.

But it is, functionally, very simple - when it is acted it leaves a mark (like the path of the ants), that is improved... by "walking", while it is "walked". This scheme, when acted with some frequency,

adjusts and is refined, reducing the cost of the action and, within certain limits, increasing the possible speed and correction of the action. [Note: there is even an ability to negotiate the cost/speed ratio).

It happens with a muscle, with a nerve, with an organ, ... with all the features that exist in man (in live). Producing, from the sum of the schemes, as results from the schemes, ... a project of the wholeness. One of the “mental schemes” (it should be noted that it is mental, as it goes far beyond the nervous system, is not nervous, although this example is at the nervous level,) simpler examples that we can present is the phenomenon of myelination of a nerve that because it is often used has created a myelin insulating cover that reduces the cost and increases the speed of nervous influx, but, on the other hand, makes it difficult to create alternative routes.

These two concepts, ARAT and Mental Schemes, are tools for the study and analysis of the development of man (of life?) and that allow, if applied to specific fields such as health, education, sport, leisure, economics, politics, ..., to understand its functionalities in the relationship between causalities and the consequences that we can expect from them, contributing to the establishment of a new and dynamic frame of reference (which results in a break with what we use today, that is “static” and promotes a vision by sectors – a mechanistic view of the sum of parts). We have, therefore, processes with contradictory, complementary evolutionary tendencies that balance each other, generating dialectics that, within the limits in which survival is possible, trigger a process of development of the individual.

To finish, we present two questions, which are not rhetorical and have answers that imply interdisciplinarity and transdisciplinary of the multiple scientific areas, creating the need for its unification: “WHO ARE YOU”? “WHO AM I?”

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Conflicts of Interest

No conflicts of interest.

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