

RELATIONAL AND CONTEXTUAL REASONING: PHILOSOPHICAL AND LOGICAL ASPECTS

by *Varadaraja V. Raman*

Abstract. This essay is a commentary on Helmut Reich's recently published book on relational and contextual reasoning (RCR). Reich's ideas are relevant in contexts of conflict, and they enable us to consider the notion of objectivity differently. He makes us see the constraints in individual perspectives. His book also can enable people to formulate problems of human concern in a wider and richer framework, which may lead to solutions not obtainable on the basis of binary logic.

Keywords: contextual; objective; realism; reasoning; relational; RCR.

A commonly observed phenomenon is that intelligent and well-meaning persons sometimes come to very different conclusions on certain issues and disagree, mildly or vehemently, when they debate them. This is all the more surprising when their ultimate goals are practically identical, such as to bring about economic recovery, to preserve the environment, and to ensure the security of the country. This is a paradox.

It also happens that reputable scientists dispute each others' explanations of natural phenomena, each claiming exclusivity for his or her own. This too is a paradox.

These are paradoxes because we assume that the vast majority of us are reasonable people who can see with clarity the essentials of an issue. We imagine all persons to be endowed with the capacity to analyze any issue calmly and dispassionately. We assume that all normal people are faithful

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to the laws of classical logic, which is supposed to guide us, in principle, to the single correct conclusion.

Many have wondered about this, and a few have also attempted to resolve such paradoxes. In his monograph *Developing the Horizons of the Mind* (2002) Helmut Reich analyzes such situations and offers his resolution by way of an eight-step heuristic built on relational and contextual reasoning, which he abbreviates RCR.

METAPHYSICAL ASSUMPTIONS

Before going progressively into RCR, let us look at Reich's philosophical presuppositions. He draws attention to the fact that, contrary to the situation in Europe in the Middle Ages (cf. Dante's *La Divina Commedia*), no single consensual view of reality and the appropriate epistemology for approaching it exists at present (Reich 2002, 35–41). It is true that there still are some old-time realists who believe that we discover more and more precisely what is actually "out there" (more in actual practice than in theorizing about the philosophical foundation of their work). But there are also a large number of critical or hypothetical realists, Reich among them, for whom a universe, though it exists independently of humans, can be grasped by humans only imperfectly. Indeed, we may be able to describe it only in metaphorical language. Reich explains why he is not a radical social constructivist or a protagonist of postmodernism. His view is that there is something "invariant" to discover in nature, that for many problems objectively better solutions can be found if an appropriate method is used. This is what prompts him to develop different methods, such as the RCR heuristic.

LOGIC

Much thinking involves an intuitive acceptance of Aristotelian two-valued logic. Simply said, something is either right or wrong, left or right, beautiful or ugly, this or its contrary that. A central thesis of Reich's book challenges the view that *all* rational thought hinges on Aristotelian logic in its unsullied purity (pp. 15–16, 41–46, 88–91). Reich reminds us that although logic itself refers to "principles and rules governing the proper use of reasoning," its confinement to the Aristotelian variety of a two-valued system is inadequate for solving many outstanding issues. If formal binary logic (as distinct from other types of logic) is held in high esteem, there are at least four reasons for it:

1. Many *actions* vital for survival since earliest times involve a binary choice of the type, It's either this or that. One is often tempted to maintain this pattern when it comes to thinking.

2. Many *thought* processes do rely correctly on binary logic: arithmetic, solving crossword puzzles, and so forth.
3. Indeed, quite often one's personality and identity are believed to be linked to taking a clear stand for this, against that, etc.
4. When it comes to logic, Aristotle is still a towering figure in academia.

It is also true that other logics are relied on in daily life—fuzzy logic when grading school work from A to F, for example, and dialectical logic when negotiating a wage settlement.

The logic underlying RCR is of a yet different type, and it is one of the major characteristics of RCR. Besides the “truth values” *compatible* and *incompatible*, it involves a third truth value, namely, *noncompatible*. The latter refers, for instance, to the case when in one context one of two competing theories has a greater explanatory potential (for example, nature), and in another context the other theory (nurture). Thus, where applicable, the protagonists of either theory (or proposed solution) are right, but not in the same context. It is obvious that this presents a potential for the resolution of cognitive conflicts such as those mentioned earlier.

RELATIONAL ASPECTS

It has been rightly observed that the farther away one is from a problem, the easier it is to recommend solutions. People in Chicago can pontificate more easily on the evils of logging than many in Idaho. The atheist can recommend the burning of scriptures, but not the member of a faith community whose scriptures are what the atheist is speaking of. It seems reasonable for industrialized nations to preach to developing ones that factories with smokestacks will be dangerous to the health of the people. People who have large lawns and sprawling houses can speak out against building roads and homes in the wilderness.

In all these cases the RCR heuristic stipulates that we do three things:

1. Find out what the issue is to which both protagonists and antagonists refer (tacitly). In the preceding paragraph one discerns logging, dealing with particular documents, economic competition, and use of land, respectively.
2. Establish a relation between the positions and the motivations of each party in regard to the issue.
3. Elucidate the relation between the positions and motivations of the protagonists and those of the antagonists.

Once all this is clear, the RCR logic is applied, and possible context-dependent solutions are searched for.

CONTEXTUAL ASPECTS

Reich discusses extensively the role of context in RCR. It is well known that statements quoted out of context often give rise to interpretations that are very different from what their authors intended. An angry exclamation in a heated exchange to the effect that one would kill an opponent should not usually be taken as a literal expression of intent. Judgments about the character of an individual are often based on the contexts in which one has known the person.

Indeed, thinking while ignoring the context can lead to absurd situations, like elaborating on the theorem of a deceased student at the cemetery when people are in tears as the mathematician David Hilbert is said to have once done. Or it could diminish an experience, as would happen if one engaged in a debate about the existence of God in the middle of a prayer service. Or it could be hurtful, as when a parent is blamed for her child having just died in a car accident.

Context may become relevant even in the exercise of ethical principles. When there is practically no possibility of the survival of a patient, how truthful should the physician be to the patient or to his dear ones? In one's dedication to nonviolence and peace, how far can one go in the context of opposing a Hitler or a Bin Laden? In law, one talks of mitigating circumstances. The Lord's Prayer asking God not to lead us into temptation is a recognition of the role that context plays in what we think and do.

How do these considerations show up in the nature-nurture example evoked above? It enables us to explain the performance of a top basketball player in the last game: his helpful height of seven feet is clearly more due to nature, his actual condition to nurture.

RCR examines to what extent the competing theories or solutions are affected by the context. Whereas the answer may be negative concerning the correctness of the solution of an arithmetic problem or a crossword puzzle, it is positive in nature-nurture cases or when considering the behavior of light as wavelike or particlelike. The RCR heuristic finds out whether context should be taken into account.

RCR: RELATIONAL AND CONTEXTUAL REASONING

With all the ingredients in place, we come back to the ensemble that Reich calls relational and contextual reasoning, or RCR. He defines fully developed RCR as "a pragmatic reasoning scheme to coordinate two or more rivaling descriptions, explanations, models, theories, interpretations" (Reich 2002, 14, 144). The eight-step heuristic (pp. 103–4) ensures the scheme's optimal application. Briefly, after establishing the issue to be described, explained, and acted upon, the competing "candidates" (descriptions, models, theories, actions, and so on) are examined with a view to eliminating unsuitable, defective, invalid, or otherwise unhelpful ones. If that leaves

more than one bona fide candidate, the procedures evoked above are applied in a systematic order. Thus, notably by insisting on accountability, the RCR heuristic is clearly distinct from both radical relativism, which entitles persons to their own opinions because one person's opinion is just as valid as any other person's opinion, and postmodernism, which rejects the possibility of assessing a given statement by invoking criteria of universal validity.

What could be a possible everyday use of the RCR heuristic?

We interact daily with other people and exchange ideas and perspectives, from our appraisal of a movie or book to our views on the news. We engage in dialogues and discussions as issues, trivial or significant, surface. There are matters that touch us deeply, that relate to our core beliefs—our religious convictions or national affiliation. We are somehow convinced of the correctness or rationality of our own thinking in glaring contrast to the obvious errors and irrationality in the thinking of those who disagree with us. This happens because in such situations we often reason in blissful ignorance of the RCR heuristic.

From a theoretical perspective, conscious recognition of RCR can be sobering and can infuse us with a better understanding of our own position. That process may enable us to see a little more clearly our opponent's point of view. Furthermore, such understanding of the other not only enriches and enlarges our own grasp of the complexity of the problem, but, more important, it could facilitate the softening of mutual belligerence and might even contribute to the resolution of problems we face from the two antagonistic frameworks.

Indeed, in the many unfriendly encounters that occur everywhere, whether in the context of perceived mutually incompatible religious doctrines or irreconcilable political stances, a consideration of RCR could be very helpful. Participants would do well to read Reich's book before getting into confrontational situations—whether they be negotiations between management and labor or between faculty and administration in a university, or international conferences between nations in a warlike phase. It could even be valuable in unpleasant quarrels between spouses.

EVIDENCE FOR THE VALIDITY OF THE RCR CONCEPTUALIZATION

Reich's work is not just based on philosophical reflection or intelligent speculation. RCR is a scientific theory. And like any scientific theory, its validity has to be checked by experiments and empirical tests. Being a trained scientist himself, Reich has done so.

In fact, the book reports the results of extensive empirical studies—mostly interviews with respondents ranging from children to the elderly—that probe into the mental operations that prompt them to form opinions

and attitudes in regard to particular issues. Invariably it becomes clear—certainly in the situations that Reich has investigated—that relational and contextual reasoning is used, at one level or another, in the thinking process. Thus, as to his scientific theory, Reich is vindicated, despite his admitting to some flaws in his methodology (pp. 47–48). (These concern the lack of representative data on RCR development with age and the like, not the basic theoretical foundations.) Anyway, these empirical studies have revealed that the development of RCR successively reaches five levels, ranging from pre-RCR levels (I and II) to a basic level (III) to a more sophisticated level (IV) and finally to full RCR (V). Anyone wishing to replicate the empirical studies finds all that needs to be known on the methodology and the scoring procedures in two appendices (pp. 191–98).

FURTHER POSSIBLE APPLICATIONS

Reich discusses a range of applications of RCR (pp. 104–84), including the conceptualization of the relation between science and religion/theology (pp. 104–20, 126–29). One can think of further possible cases. One would be in education. Before young people form rigid opinions on controversial issues, it would be helpful if they had an understanding of the framework in which opinions are formed and points of view developed. If Reich's elucidation of the levels of RCR were explained and anchored in the minds of students, they would be better able to cope with the cacophony of conflicting arguments and counterarguments in the chaotic world of ideas. True, people's judgments may ultimately be corrupted by self-interest and self-preservation, but these need not be the only factors to intervene. There is, of course, the difficulty that RCR has to be developed from rudimentary forms, but with sufficient attention paid to its development and adequate support it should be possible for a person to reach at least level III in adolescence.

This educational experience could be valuable to adults as well. There are utterly convinced preachers of all cults, sects, and ideologies. They have every right to propagate their perspectives. But many of them tend to get aggressive and be unsympathetic toward those who repudiate them. Perhaps Reich's RCR heuristic could help them to better understand opposition to their own enthusiasm.

Indeed, there are political debates, moral issues, and many other contexts where divergence comes into play in the framework of diversity. Here, too, Reich's approach might prove helpful in the clarification of issues and their context dependence.

Given that Reich seems to have revealed an attainable complexity in the thought process in the human mind, one may wonder if it might not be useful in the exploration of artificial intelligence. Like the truth tables of symbolic binary logic, Reich has worked out an elaborate predicate logical

statement for RCR. One might consider the possibility of somehow incorporating this RCR logic in a computer. That might yield some interesting results and also assist in the construction of newer kinds of thinking machines. Current research in the field rests largely on the standard logical operational modes, though fuzzy logic is also introduced here and there. The exploration of artificial intelligence incorporating RCR might be even more fruitful.

CONCLUDING THOUGHTS

Reich has written a very interesting, insightful, and important book on the nature and complexity of one type of human thinking that, to my knowledge, has not been dealt with explicitly in academia. He has made many observations, conducted various empirical studies, and constructed a carefully considered theory. This theory throws light on some of the perennial paradoxes in human discourse. It analyzes the reasons why people often are not more effective in solving certain problems and instead turn them into a war of attrition. It explains the not-infrequent phenomenon of mutual misunderstanding even among well-meaning people. An awareness of the role of relational and contextual aspects in thought processes aimed at solving certain problems could enable people to minimize unnecessary controversies. At the same time, it might help us be more empathetic toward opponents in point-of-view confrontations.

Reich's ideas are relevant and important in understanding and developing human thinking, and they could be useful in many situations. Scientists and searchers for objective truths could use them to avoid pitfalls in investigations. What makes RCR interesting is that it is a double-edged sword. If it is taken into account when one analyzes the perspective of one's opponent, one's own grasp of the situation becomes much stronger, and one tends to be more understanding.

As I see it, the major contribution of Reich's RCR model is to awaken us to an awareness of certain of our own shortcomings and constraints but also to our as-yet-unused potential and similarity with others. In that awareness we will be able to formulate problems of human concern from a wider perspective that may lead to solutions not obtainable on the basis of binary logic.

The book jacket illustrates Reich's thesis by showing the horizon of Earth and beyond that the nightly sky from Sirius, the brightest star, to the comet Haley-Bopp, symbolizing the development of the horizons of the mind via astronomy, astrophysics, cosmology, mathematics, philosophy, and religion. He dedicates his book to his grandchildren with the wish that they might grow up in a society in which relationships and contexts become more and more recognized and valued.

REFERENCE

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