

## The principle of inseparability

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**Abstract:** The approached issue of this paper is *how does a cognitive agent get knowledge about the real world starting from his own perceptions?* The answer to this problem depends on the epistemic principle which we are agreed to. There can be two epistemic principles: the principle of authority and the principle of tolerance. According to the principle of authority, only some cognitive agents are justified to derive objective truths from their perceptions. The tolerance principle has the consequence that there is no absolute objective truth but only a relative truth. With other words, there is no ground to separate the cognitive agent from his perceptions or, according to the *principle of inseparability*, if something cannot be separately thought, it also cannot be separated in reality.

**Keywords:** knowledge, perceptions, authority, tolerance, inseparability.

Through the term “cognitive agent”,  $x$ , we’ll mean a being which is able of knowledge. The *perceptions* are given to the cognitive agents. We’ll describe a perception through a proposition like “ $x$  perceives that  $p$ ”, where  $p$  is the fact corresponding to the proposition “ $p$ ”. We also agree to note a proposition with the form “ $x$  perceives that  $p$ ” by the expression “ $xp$ ”. In the same way, through the expression  $x“p”$  we’ll understand “ $x$  communicates  $p$ ”. For instance, let’s suppose that  $x$  perceives that the object  $a$  is green. In this case, the fact  $a$  is green is noted using the symbol  $p$ , and the proposition “ $a$  is green” is represented by “ $p$ ”. The expression “ $xp$ ” means, in this case,  $x$  perceives that  $a$  is green.

The perceptions are *subjective*; they are different from a cognitive agent to another. It is possible for two cognitive agents to have contrary perceptions, for example, *x perceives that a is green* while *y perceives that a is red*. On the other side, only his perceptions are given to an agent. In this situation, the problem that emerges is how can an agent to know *how is the world in reality* or *how is the real world?* In other words, how has an agent access to the real world and to the *objective truth* while only its own subjective perceptions are given to him?

Of course, any cognitive agent can *suppose* that his perceptions are real but, in such a case, is he right? The problem becomes:

(P) Which are the conditions for the agent *x* is *justified* to infer from its perceptions to the reality?

or, in the same manner, which are the conditions for the following inference, *R*, to be valid:

$(x \text{ perceives that } p) \vdash p$ , namely, using the previous notations,

$xp \vdash p$

$xp \vdash ("p" \text{ is true}).$

Since *R* allows the passage from the subjective perceptions to objective facts, we'll say that *R* is an *inference of externalization*. Through such an inference, the subjective states of the cognitive agents are projected out of them, in the real world. The solution for that problem consists in founding the conditions when the content of a cognitive agent's perceptions are valuable for any other agent or to determine the conditions of the

objective truth. What are the necessary conditions for the perceptions to be *externalized* or *objectified*?

At least some perceptions must be objectivable, namely, the inference  $R$  has to be valid for some values of the variable  $p$ . Let's suppose that  $R$  is not valid for any possible perception. In this case, either there is no real world or, even if there were a real world, it couldn't be known in a justified way and it would have no connection with the cognitive agent's perceptions. In the first case we fall into *solipsism*<sup>1</sup> being necessary to admit that only the cognitive agent and its perceptions exist and, in the second case, we arrive to *skepticism*<sup>2</sup>. The solipsism is self contradictory and the skepticism can be rejected through *reductio ad absurdum*, as Descartes has showed.<sup>3</sup>

If we remain focused to the extensible perceptions then the validity of the inference  $R$  depends only on the variable  $x$ . It can be distinguished two situations:

- 1) The inference  $R$  is valid only for some cognitive agents.
- 2) The inference  $R$  is valid for every cognitive agent or it isn't valid for any cognitive agent.

In the first situation, the inference  $R$  is valid for some agents while for the others it is not valid, respectively:

$$(\text{Ex})(x \text{pl-p}) \& (\text{Ex})\sim(x \text{pl-p})$$

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<sup>1</sup> Johnstone A.A., 1991, p. 15.

<sup>2</sup> Feldman R., 2003, p. 108.

<sup>3</sup> Descartes R. 2008, p. 29.

Since the inferences of the form  $R$  allow the determination of the objective truth, the case (1) means that *only some agents are able to reach the objective truth* so, it is just the epistemological principle of authority.<sup>4</sup>

In the second case, the inference  $R$  is valid either for any agents or for no one of them, being the negation of the previous situation:

$$(x)(x \text{pl-} p) \vee (x) \sim (x \text{pl-} p)$$

For this time, the objective truth is equally distributed relatively to any cognitive agent. This case coincides to the *tolerance principle*.<sup>5</sup>

The authority principle divides the cognitive agents into two distinct classes:

1) A superior class composed by cognitive agents who can externalize their perceptions in a justified way, reaching the objective truth. For them, the inferences  $R$  are valid. About the members of this class we'll say they are *epistemic authorities*,  $A$ .

2) An inferior class containing the agents that are not justified to externalize their perceptions. This time, the perceptions are tricky, they are just illusions and they don't constitute a foundation for the objective truth. The members of this category have no justification to claim that they have an adequate knowledge of the reality.

As consequence, the authority principle's answer to the problem  $P$  is that the inference  $R$  is valid only if  $x$  is an epistemic authority:

$$(x)(Ax \vdash (x \text{pl-} p))$$

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<sup>4</sup> Bochenski I.M., 1974, p. 50.

<sup>5</sup> Carnap R., 2002, p. 51.

The authorities are superiorly gifted beings or they have special means or techniques to get their perceptions so that they can be externalized in a justified manner. The real world becomes a *construct* of an epistemic authority.

The members of the inferior category have no access to reality. Their perceptions are wrong or they are illusions. Therefore, the inferior cognitive agents may know the reality only through an authority's perceptions. Since the inferior cognitive agents have no access to the authority's perceptions, because the perceptions can be projected only to the past, their only way to acquire knowledge is represented of the *messages* emitted by the authorities. It follows that the members of the inferior class reach knowledge about real world through *communication*, according with the next inference:

(The proposition “p” is emitted by the authority  $x$ )  $\vdash$  (The proposition “p” is true)  
 $(x)(Ax \vdash (x“p”\vdash p))$

We notice that the epistemic authority is a communicational relationship. An authority can be imposed even he has no superior perceptions relatively to the other agents but only through his communicative qualities. A cognitive agent plays a role of epistemic authority not by his capacity to perceive the reality but rather due to his ability to determine the others to believe that he has such abilities and, moreover, that he has the goodwill to send them the truth.

The agents from the second class have no else to do than listening and subduing to the authority in order to get cognitive access to the reality.

Their relation to an authority is founded by *trust*. As receivers of the authority's messages, they will accept them only if they will believe that the authority is *competent* and *sincerely*. The competence is the quality of an authority to adequately know how the reality is, and the sincerity represents the concordance between the message and the authority's beliefs. Any time when these two conditions are fulfilled, the relation of authority is present.

Under the authority principle, the cognitive agents are persuaded to believe rather the authority's messages than their own perceptions. For that reason, the relation of authority is used to spread over a public certain opinions or attitudes. Despite all these, the knowledge obtained through the principle of authority is not justified because this principle is not logically correct. First, someone is an authority only if he is recognized or accepted by another authority. Even if someone's perceptions correspond to the reality, he can be an authority only if he is recognized by an authority. On the other hand, we have no mean to justify the trust relatively to an authority.

In order to establish if a cognitive agent is an authority, we should have access to his perceptions; in other way, we could determine neither the condition of competence nor the condition of sincerity. Only an authority could verify if someone's perceptions corresponds to the real world. As consequence, it is fallen into a vicious circle because the justification of the claim that someone is an authority supposes the presence of an authority. Even if the relation of authority belongs to the social structure, even if the principle of authority is applied in many situations, there is no way to justify it. Every cognitive agent is equally justified to believe that he is an authority, but the justification of this pretention makes necessary the

intervention of another authority and so on, to the infinitum. The existence of the epistemic authority can be sustained only dogmatically.

Since the authority principle has no logical or epistemological foundation, only the principle of tolerance remains valuable. Unlike the authority principle, the tolerance principle doesn't split the set of cognitive agents into two parts. According to the principle of tolerance, if some agents have access to the objective truth, then all cognitive agents have such a quality. If  $Rx$  is the inference of externalization,  $Rx =_{\text{not}} \text{xpl-p}$ , then:

1.  $(x)Rx \vee (x)\sim Rx$  (the principle of tolerance)
2.  $(x)Rx \vee \sim(Ex)Rx$  (from 1)
3.  $(Ex)Rx \vdash (x)Rx$  (form 2)

Therefore the principle of tolerance is equivalent to the affirmation: “If  $Rx$  is valid for some  $x$  then it is valid for any  $x$ ” or “If the objective truth is accessible to some cognitive agents then it is accessible to every agent”.

Being a disjunction, the tolerance principle has two forms, one of them *strong* or *affirmative* and the other, *weak* or *negative*. The strong form of the tolerance principle, (STP), says that the perceptions of any agent can be externalized in a justified way:

$$\text{STP} = (x)(\text{xpl-p})$$

According to the weak form, (WTP), for any cognitive agent, the inference  $R$  is not valid or, in other words, there is not a cognitive agent so that his perceptions are a ground for the objective truth:

$$WTP = (x)\sim(xpl-p)$$

$$WTP = \sim(Ex)(xpl-p)$$

The *STP* variant of the tolerance principle tells us that the perceptions of any cognitive agent take place in reality, according with G. Berkeley's thesis: "to be is to be perceived". Against *STP*, the objection that it generates contradictions can be raised. Let's suppose that  $p_1$  and  $p_2$  are two incompatible facts (they cannot take place together). As consequence, the correspondent propositions, " $p_1$ " and " $p_2$ ", are contrary. If  $x_1$  and  $x_2$  are two different agents, the propositions " $x_1p_1$ " and " $x_2p_2$ " are not contrary so, they could be true in the same context.

If we accepted the strong principle of tolerance, then it would follow:

1.  $(x)(xpl-p)$  (the supposition that *STP* is true)
2.  $x_1p_1 \& x_2p_2 \& \dots$  (from 1; the elimination of the universal quantification)
3.  $x_1p_1 \& x_2p_2$  (hypothesis; the conjunction can be true – from previous considerations)
4.  $p_1 \& p_2$  (from 3, through *modus ponens* between (2) and (3) – contradiction)
5. From the supposition that *STP* is true we have inferred the contradiction (4). Therefore, *STP* must be rejected.

If *STP* is rejected, it means that the only valuable epistemological principle is the weak tolerance principle, *WTP*. According to this principle, no one is justified to formulate absolute objective truths from its own

perceptions. Therefore there is no absolute real world; there is no absolute reality, the same for all cognitive agents.

If we return to the inference of externalization,  $R = \text{xpl-p}$ , it is not valid for any  $x$ . Inside the inference  $R$ , the variable  $x$  plays the role of an operator which, if it is applied to a certain proposition, “ $p$ ”, it turns that proposition into a true proposition. With other words, the inference  $R$  says that a proposition perceived by  $x$  becomes true.

When the inference  $R$  is used, it takes place a *separation* between the operator  $x$  and its argument  $p$ . The weak principle of tolerance claims that the inference  $R$  is not valid for any value of  $x$ . It follows that, according to *WTP*, *the operator  $x$  cannot be separated from the argument  $p$* . In this way, the weak tolerance principle is equivalent to the *principle of inseparability* between  $x$  and  $p$ .<sup>6</sup> We reach the result that, in order to be valid, the inference of externalization must contain the variable  $x$  in its conclusion; such an inference has to have the following structure:

$R_1 = \text{xpl-px}$ , where through  $px$  we understand “ $p$  takes place relatively to  $x$ ” or “the proposition  $\langle\langle p \rangle\rangle$  is true relatively to  $x$ ”.

We have obtained the following form of the *WPT*:

$(x)(\text{xpl-px})$ , namely,

“ $x$  perceives that  $p$  therefore  $p$  takes place relatively to  $x$ ”.

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<sup>6</sup> “A Principle of Inseparability asserts that what cannot be thought of as separated cannot really exist separately”, Hogan D., 2010, p. 31.

The weak principle of tolerance is incompatible to the separation between the operator  $x$  and its argument  $p$ , so that, there cannot be a real world in an absolute manner but, the real world is *relative*. The objective true propositions founded on the agent's perceptions are, at their turn, relative. From the premise “ $x$  perceives  $p$ ” it cannot be inferred  $p$  but the justified conclusion is “ $p$  relatively to  $x$ ”. We can say that the operation of externalization is subdued to the *principle of inseparability*.

No one's claim that his perceptions correspond to the reality is justified. No one is able to build or project a reality absolutely valuable for every agent. In change, everyone is equally justified to project a relative reality. The objective truths, founded through perceptions, can't be absolute but only relative.

For instance, if  $x$  perceives that  $a$  is green, no matter who is  $x$ , we cannot infer that  $a$  is green but only that  $a$  is green relatively to  $x$ . In this way, if another agent,  $y$ , perceives that  $a$  is red, the conclusion of the externalization inference is  $a$  is red relatively to  $y$ . The two conclusions are compatible, there is no reason to reject one or another of them or to prefer  $x$  to  $y$  or vice versa. The weak principle of tolerance, with the inseparability principle as its consequence, imposes the equivalence of all cognitive agents and the *relative* character of the knowledge acquired through perceptions.

Although the perceptions cannot be a source of absolute truths, there is a class of propositions, the *tautologies*, which must be accepted as true by all cognitive agents. The tautologies are true in any conditions, namely, for any evaluator, whatever would be their state. Therefore, the tautologies are absolute truths. But they cannot be the result of perceptions which, as we have seen, justify only relative truths. Since there is a category of truths which are not founded on perceptions, it follows that it must be another way

to justify true propositions, respectively, the logical calculus. Because the tautologies are not the fruits of perceptions, it follows that they tell us nothing about the world. For that reason, they cannot be taken into consideration as an argument that the absolute reality exists.

The set of tautologies represent the logic. As consequence, logic is one and the same for any cognitive agent. Moreover, logic cannot be used as a ground to divide the cognitive agents into superior and inferior categories. Logic is neutral to the differences among people. Carnap was right when, starting from the tolerance principle, argued that logic doesn't interact with the moral sphere; tautologies cannot be connected with facts ethically evaluable.<sup>7</sup>

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