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Introduction. Truth and falsity play a dominant role in contemporary work on information, misinformation, and disinformation. Discussions of these notions typically include remarks about their truth-values, or even explicit arguments in favour of their having fixed truth-values.

Method. I use Chalmers’s framework for identifying and potentially solving verbal disputes to analyse the discussions regarding information and truth.

Analysis. Philosophical analyses of the discussions of information and its relation to truth, as they play out between Luciano Floridi and Don Fallis (among others), are carried out in the paper.

Results. I find that these discussions are in fact a verbal dispute. Further, the dominant focus on truth and falsity in the work on information, misinformation, and disinformation, within philosophy of information, gives rise to a Floridian dilemma: a dilemma in which Floridi’s definition of semantic information, as inherently truthful, turns out to encompass certain varieties of misinformation and disinformation while excluding others.

Conclusion. I recommend that information must be defined as semantic content in general without reference to truth, i.e. as truth-neutral, such that all varieties of misinformation and disinformation can be kinds of information.

Introduction

Truth and falsity play a dominant role in contemporary work on information, misinformation, and disinformation. Discussions of information, misinformation, and disinformation typically include remarks about their truth-values, or even explicit arguments in favour of their having fixed truth-values. However, there seems to be something verbal about these disputes: there is agreement that semantic information has to do with semantic or representational content; what is disputed is merely whether the veridicality of semantic content is a requirement for information. Drawing on the Chalmers (2011) approach to verbal disputes, I shall argue that this focus on the role of truth and falsity in the discussions of information gives rise to a
dilemma. Moreover, as I shall show, it is very much a Floridian dilemma: it is Floridi’s (2005a, 2005b, 2007, 2011) account of semantic information as inherently truthful which turns out to encompass true misinformation and disinformation, while simultaneously excluding false misinformation and disinformation (which he characterises as different in kind from information). Making this dilemma explicit, and analysing what it points to, may enable the discussion of information, misinformation, and disinformation to move forward.

Within analytic philosophy the notion of information, especially semantic information, received a great deal of attention from the 1980s onwards (e.g., Dretske, 1981), where a renewed interest in formal modelling succeeded the ordinary language turn dating from the late 1940s (e.g., Austin, 1975 and Grice, 1991; cf., Chapman, 2005; The Pi Research Network, 2013). Work on semantic information, traditionally conducted within epistemology, has largely been carried on within the independent discipline of philosophy of information espoused by Luciano Floridi. Within this discipline, one of the main discussions or disputes concerns whether semantic information is veridical or alethically neutral. Floridi (2005a, 2005b, 2007, 2011) argues that information is inherently truthful, whereas Fallis (2009, 2011, 2014, 2015), Fetzer (2004), Fox (1983), and Scarantino and Piccinini (2010) argue that information is alethically neutral. (Observe that Floridi (2005a) uses truthful as a synonym for truth in order to be able to refer to content which is non-linguistic, for example images, maps, gestures, and the like). The dispute and the different positions held by these authors, determine how information is related or connected to misinformation and disinformation. Thus, on Floridi’s account the requirement for truth distinguishes information from misinformation and disinformation, which are described as different in kind owing to their falsity. On the accounts put forth by Fox, Fetzer, and Fallis misinformation and disinformation are kinds of information. On Scarantino and Piccinini’s account misinformation and disinformation are not dealt with explicitly, instead they argue that false information is a kind of information.

The different accounts of information are motivated by differences in the goals and starting points. Floridi requires information to be veridical in order to let information replace justification in the analysis of knowledge. That is, information as inherently truthful, when believed by an agent, is that which secures knowledge. Fetzer and Fallis, who have the definition and conceptual analysis of disinformation as their goal, and Fox, who offers an account of misinformation, define misinformation and disinformation as false or misleading information, which requires a notion of information as alethically neutral. Scarantino and Piccinini also propose a notion of information as alethically neutral, as they want to capture how cognitive scientists work with information without having to speak of misinformation processes in the brain whenever some representational content turns out to be false.

Although many aspects of these different definitions of information within philosophy of information could be discussed, it is the dispute regarding the truth-requirement for information which is omnipresent in the literature. Thus, a conceptual analysis of the dispute, that is, an analysis of whether it is a substantive or a verbal dispute, provides paths towards philosophical progress. A substantive dispute is a dispute over the very nature of concepts. A verbal dispute is a dispute over how to label a concept, or how to apply it in various situations. If the dispute is substantive, the attempt to resolve the dispute is an obvious goal for further work. If the dispute is verbal, as I hope to show, the discussions can move on to other matters regarding information, misinformation, and disinformation.

**Chalmers on verbal disputes**
The identification of a philosophical dispute as verbal need not be a refusal to engage in substantive discussion. On the contrary, as Chalmers shows, it can lead to genuine progress:

[the philosophical interest of verbal disputes is twofold. First they play a key role in philosophical method. Many philosophical disagreements are at least partly verbal, and almost every philosophical dispute has been diagnosed as verbal at some point. Here we can see the diagnosis of verbal disputes as a tool for philosophical progress. If we can move beyond verbal disagreement to either substantive agreement or to clarified substantive disagreement, then we have made progress… Second, verbal disputes are interesting as a subject matter for first-order philosophy. Reflection on the existence and nature of verbal disputes can reveal something about the nature of concepts, language, and meaning. (Chalmers, 2011, p. 517).

So, to clarify whether the dispute about information and truth is substantive or verbal might provide philosophical progress within philosophy of information and elsewhere. In particular, we might hope for insights about the notions of information, misinformation, and disinformation and their interconnections (i.e., whether or not they are different in kind).

Chalmers provides a number of tools for the identification of disputes, as well as how to deal with them. For a start, he gives definitions of two different kinds of verbal disputes. The first definition is of a narrow verbal dispute and states that: ‘A dispute over S is verbal iff S expresses distinct propositions p and q for the two parties, so that one party asserts p and the other denies q, and the parties agree on the truth of p and q’ (Chalmers, 2011, p. 519).

The second is a definition of ‘a broadly verbal dispute [which] is one in which an apparent first-order dispute arises in virtue of a metalinguistic disagreement’ (Chalmers, 2011, p. 522). Chalmers notes that it is ‘an explanatory "in virtue of": the idea is that the metalinguistic disagreement explains the apparent first-order disagreement’ (Chalmers, 2011, p. 525). That is: ‘A dispute over S is (broadly) verbal when, for some expression T in S, the parties disagree about the meaning of T, and the dispute over S arises wholly in virtue of this disagreement regarding T’ (Chalmers, 2011, p. 522).

Although Chalmers agrees that there might be cases of narrow verbal disputes, he argues that most often a verbal dispute is broadly verbal, as it is most often the meaning of some expression that the parties disagree about and not distinct propositions:

For example, suppose that A and B agree that Sue made a false statement that she did not believe to be false and also agree on the moral status of Sue’s assertion and other relevant properties. A says, “Sue did not lie”. B initially says, “Sue lied”, believing falsely that ‘lie’ refers to any false statement, but on reflection comes to accept “Sue did not lie”, through reflection on the concept of lying. Then, initially, A and B need not be having a narrowly verbal dispute: both may use ‘lie’ to express the same concept. But they are having a broadly verbal dispute all the same: intuitively, they agree on the important facts of the case and are merely disagreeing on whether the word ‘lie’ should be used to describe it. (Chalmers, 2011, pp. 520-521).

According to Chalmers ‘a broadly verbal dispute is one that can be resolved by attending to language and resolving metalinguistic differences over meaning’ (Chalmers, 2011, p. 526). One approach is to:
settle the facts about key terms in the context, and then
to distinguish senses of the key terms.

Another approach is the method of elimination, which has three steps:

First: one bars the use of term T. Second: one tries to find a sentence S’ in the newly restricted vocabulary such that the parties disagree nonverbally over S’ and such that the disagreement over S’ is part of the dispute over S. Third: if there is such an S’, the dispute over S is not wholly verbal, or at least there is a substantive dispute in the vicinity. If there is no such S’, then the dispute over S is wholly verbal… (Chalmers, 2011, p. 527).

Thus, in order to settle whether or not a dispute is verbal, the parties who disagree over some term T can be asked to restate the dispute or parts of it without the use of term T (or someone can try to restate the dispute for them). If the dispute can be restated and the new dispute is nonverbal, then the initial dispute was substantive. However, if the dispute cannot be restated without the use of term T, or if the dispute can be restated but the new dispute is verbal, then the initial dispute was verbal as well. Furthermore, it can be asked what turns on the dispute: ‘If something turns on the verdict it can still be a verbal dispute, but it is not a merely verbal dispute’ (Chalmers, 2011, p. 525).

If the disputed question is of the kind What is X? there is a special case of the method of elimination which can be applied, the so-called subscript gambit (Chalmers, 2011). In this case of the method the disputed term T is barred in order to introduce two new terms T1 and T2 stipulated to be equivalent to the two right-hand sides. Non-verbal disagreement over T1 and T2 indicates non-verbal disagreement over T. Verbal disagreement over T1 and T2 indicates that the dispute over T is also verbal.

The veridicality of information as a verbal dispute

The present dispute is the one in regard to information and truth i.e., whether information is inherently truthful or neutral with regard to truth, i.e., alethically neutral. I will not go into discussions of what constitutes truth in the first place (for these discussions cf. Søe (2016)). Neither will I deal with distinctions between true, truth, and truthfulness. For the current purpose I will simply deal with the dispute as it plays out within philosophy of information, that is a dispute of whether or not information requires truth in order to be information without any specifications of a theory of truth.

Floridi (2005a, 2005b, 2007, 2011) argues in favour of a claim, which can be phrased as:

(1) Information requires truth (in order to be information)

whereas Fallis (2009, 2011, 2014, 2015), Fetzer (2004), Fox (1983), and Scarantino and Piccinini (2010) argue in favor of a claim, which can be phrased as:

(2) Information does not require truth (in order to be information).

In order to detect whether this dispute is verbal or substantive the term information must be barred from the sentences (1) and (2), as described in the method of elimination. When information is barred, (1) and (2) can be restated in the new restricted vocabulary. As the
dispute concerns the definition of the concept information, Floridi, Fallis, Fetzer, and Fox provide definitions of information, which can be used to restate (1) and (2). Floridi defines information as well-formed, meaningful, and truthful data, that is, truthful semantic content, in order to deal with the problem that contradictions contain maximum information although they are false. Fallis defines information as representational content in general independent of truth-value. Fox defines information as propositions expressed through sentences bridged by meaning. And Fetzer defines information as well-formed, meaningful data as a direct opposition to Floridi’s argument that false information is a contradiction in terms.

Scarantino and Piccinini (2010) also take part in the dispute with a definition of non-natural information based on Grice’s notion of non-natural meaning. On Scarantino and Piccinini’s account (which is formulated as a direct reply to Floridi) non-natural information is roughly equivalent to representational content and thereby independent of truth-values. In order to restate (1) Floridi’s definition of information is used and in order to restate (2) Falli’s definition of information is used (as it captures all the alethically neutral definitions of information as provided by Fox, Fetzer, and Scarantino and Piccinini). Thus, (1’) and (2’) are generated:

(1’) Well-formed, meaningful, truthful data requires truth in order to be well-formed, meaningful, truthful data.

(2’) Representational content does not require truth in order to be representational content.

However, these two restatements are both necessarily true. It cannot be denied that something truthful requires truth in order to be truthful and it cannot be denied that representational content as such does not require truth in order to be representational content. Thus, the two parties have to agree on the truth of (1’) and (2’) but that does not resolve the initial dispute. However, it is clear that the dispute concerns the meaning of the term information, i.e., what is implied by that concept and, thereby, when it can be applied. Although it is a dispute which concerns the meaning of the term information, the dispute is different from the one in the example about lying. It is not the case that one of the parties (i.e., Floridi vs. Fallis, Fetzer, Fox, and Scarantino and Piccinini) will suddenly realise that they, in accordance to the definition of the term, applied the term wrongly. The dispute about information and truth is a dispute about the definition of the term or concept information. Thus, the parties cannot come to an agreement about a correct application of the term information. Although the dispute over the term information is different from the example about lying, the dispute, if verbal, will be a broadly verbal dispute. It is a dispute over the term information where all the disputants are perfectly aware of the other disputants’ position such that it is not simply a case of the one party stating p whereas the other denies q.

As the disagreement is not about the correct application of the term information it might be more fruitful to state the dispute as a classic philosophical question of the kind What is X?, i.e., What is information?, because that is actually what the dispute is about. According to Chalmers (2011), disputes of the kind What is X? are almost always verbal. However, that does not mean that it cannot provide philosophical progress to resolve these disputes. A clarification of a dispute as verbal disagreement is progress in itself. Thus, the dispute between Floridi and Fallis, Fetzer, Fox, and Scarantino and Piccinini concerns the question What is information?. Floridi’s answer to that question is:

(3) Information is well-formed, meaningful, and truthful data, (i.e., truthful semantic content)
whereas Fallis’ answer (as a proponent for Fetzer, Fox, and Scarantino and Piccinini as well) is:

(4) Information is representational content (i.e., alethically neutral).

When the subscript gambit is applied the disputed term T (i.e., information) is barred in order to introduce two new terms Information1 and Information2. Hence, (3) and (4) are restated as:

(3’) Information1 is well-formed, meaningful, and truthful data, (i.e., truthful semantic content).

and

(4’) Information2 is representational content (i.e., alethically neutral).

If the parties have nonverbal disagreements which involve Information1 and Information2 then the initial dispute is most likely nonverbal as well (i.e., it is substantive), or at least has substantive elements. However, if the parties do not have nonverbal disagreements which involve Information1 and Information2 then the initial dispute is verbal. In the case of (3’) and (4’) there is no nonverbal dispute left, wherefore the dispute is verbal. Fallis would not deny that there is a subset of well-formed, meaningful data (i.e., semantic content) which is truthful, that is Information1, he just denies that this subset is the only thing which counts as information. Likewise, Floridi acknowledges that a concept of semantic content in general is needed to capture both information, misinformation, and disinformation and this is exactly what Fallis’s notion of representational content, i.e., Information2, does. Floridi just denies that this general concept of semantic or representational content should be called information. Thus, Floridi and Fallis agree that Information1 is a subset of Information2, but they do not agree which of the two concepts should be termed information. For Floridi (2005a, 2005b) semantic content in general (i.e., well-formed, meaningful data) is divided by truth and falsity into information (the truthful part) and misinformation and disinformation (the false part). Fallis (2009, 2011, 2014, 2015), on the other hand, sees misinformation and disinformation as kinds of information and he does not divide representational content by truth and falsity, as he wants to capture the notion of true disinformation.

Although the dispute as to whether information requires truth or not is verbal, the possibility of true disinformation (Fallis, 2009, 2011, 2014, 2015) and true misinformation (Søe, 2016) does turn on the outcome of the dispute. True disinformation arises because of Gricean implicatures where what is literally said is true, but what is implicated is false (Grice, 1991). True misinformation arises in the same manner (Søe, 2016). The difference between misinformation and disinformation is that the intentional misleading, which is required for disinformation (Fallis, 2015), is not present in misinformation, which is defined as unintended misleading (Søe, 2016). When, for instance, a bank robber is asked by the police if he knows where the bank robber is and he truthfully answers ‘He is not far away’ he provides true disinformation. The bank robber falsely implicates that he is not the bank robber while what he literally says is true. If the police officer believes the bank robber and truthfully tells his colleague that the bank robber is not far away, then it is an instance of true misinformation, as the police officer does not intentionally mislead his colleague, he does so by accident. Although the police officer only misinforms his colleague, the colleague gets disinfomed indirectly by the bank robber. The spread of disinformation is enabled through
transitivity. Thus, the bank robber directly disinforms the police officer, the police officer misinforms his colleague (as the misleading is unintended), and the bank robber indirectly disinforms the colleague through the police officer (cf. Søe, 2016).

The notions of true misinformation and true disinformation based on the notion of false implicature are in line with the literature on lying, misleading, and deceiving (e.g., Adler, 1997; Fallis, 2010; Mahon, 2008; Stokke, 2013; and Webber, 2013).

A Floridian dilemma

Floridi (2005a, 2005b) acknowledges that semantic content in general (i.e., well-formed, meaningful data) is needed in order to capture information, misinformation, and disinformation, alike, as different kinds (semantic content in general is that which information, misinformation, and disinformation are kinds of); that is, he accepts Information as a necessary concept which, when truth-values are added is either information (truthful) or misinformation and disinformation (false). However, as Floridi accepts semantic content as capturing information, misinformation, and disinformation, alike, but distinguishes these notions by truth and falsity, he ends up in a position where he faces a dilemma, which offers two horns. In order to keep his definition of information as ‘well-formed, meaningful, and truthful data’, Floridi must either

1. deny the possibility of true misinformation and true disinformation, or
2. accept that true misinformation and true disinformation are captured by his definition of information as ‘well-formed, meaningful, and truthful data’, i.e., that true misinformation and true disinformation are kinds of information (whereas false misinformation and false disinformation are not).

To deny the possibility of true misinformation and true disinformation would demand that the body of literature on lying, misleading, and deceiving be rewritten, as the notion of false implicature, as the means for verbal misleading and deceiving, is more or less uniformly agreed upon. The denial of true misinformation and true disinformation, therefore, does not seem to be a fruitful option. Thus, Floridi’s true-false dichotomy for the distinction between information vs. misinformation and disinformation collapses. To accept true misinformation and true disinformation as kinds of semantic information, whereas false misinformation and false disinformation are different in kind, renders the whole account incoherent. It is unacceptable that true misinformation and true disinformation count as kinds of information whereas false misinformation and false disinformation do not; the misleadingness remains the same, despite truth-value.

However, Floridi’s current account of semantic information does capture true misinformation and true disinformation as kinds of information. True mis- and disinformation are captured as kinds of information because Floridi’s account is based on the true-false dichotomy, a dichotomy which collapses with the possibility of true misinformation and disinformation, without a specification that information must be non-misleading. It is the misleadingness of misinformation and disinformation which most significantly distinguishes these notions from information (Søe, 2016), but this is not recognised or accounted for by Floridi. It seems that within philosophy of information the defenders of information as necessarily truthful assume that because information is true per definition it cannot be misleading: information is always good. It is the true ingredient in knowledge and it secures knowledge better than justification.
However, when true misinformation and true disinformation are possible, this view is problematic or at least disputable. The literal truth of true misinformation and true disinformation in itself is not a guarantee for non-misleadingness, i.e., a guard against misleadingness, as the disinformation and the misinformation still are capable of generating false beliefs on the part of the disinformee and misinformee. If truth was enough to guard against misleadingness, true misinformation and true disinformation would not be possible.

In order to escape the dilemma, it might seem possible for Floridi to include non-misleadingness in his account of information, such that semantic information is ‘well-formed, meaningful, non-misleading, and truthful data’. However, in the same way as false Gricean implicatures (i.e., implicatures which are misleading) can be generated by saying something literally true; (true) Gricean implicatures (i.e., implicatures which are non-misleading) can be generated by saying something literally false. Misinformation and disinformation can be based on false implicatures due to their misleadingness. In the same way information can be based on (true) implicatures owing to their non-misleadingness. However, when what is literally said is false and the implicature is true and non-misleading, it is not possible to speak of information on Floridi’s account owing to his truth-requirement for information. Thus, instances which should count as information would be ruled out by the amended Floridian definition of information.

As mentioned, the dispute between Floridi and Fallis, in regard to the truth-requirement for information, is a verbal dispute which arises in virtue of a metalinguistic disagreement over the term information. There is no substantive disagreement in the sense, that Floridi and Fallis agree on the existence of two different terms Information\textsubscript{1} and Information\textsubscript{2}. The disagreement concerns whether it is Information\textsubscript{1} or Information\textsubscript{2} which earns the label information. The outcome of the dispute is another matter. To settle whether a dispute is verbal or substantive does not necessarily settle the dispute itself. However, it yields the potential to move the discussions forward, i.e., to move beyond discussions of truth-values for information, misinformation, and disinformation.

**Disinformation as a success term?**

Floridi (2005b, 2011) acknowledges that disinformation is purposefully, or intentionally conveyed; as opposed to misinformation, which is unintentional (Floridi, 2005b). However, as there is no specification of the intentionality (in the directedness-or foreseeability-sense) or un-intentionality of information, ‘well-formed, meaningful, and truthful data’ still entails true misinformation and true disinformation. The differences between misinformation and disinformation in their true varieties and Floridi’s notion of information as truthful are all in terms of intentionality or un-intentionality as well as misleadingness or non-misleadingness, something which is not accounted for by Floridi. One feature, which could exclude true disinformation from the domain of ‘well-formed, meaningful, and truthful data’ (i.e., semantic information) is if disinformation is a success term. If disinformation is a success term it means that something is only disinformation if someone is actually misled, i.e., if the misleading is successful. As Floridi’s (2005a) notion of semantic information is independent of informees (in the sense of someone receiving the information) it cannot contain a notion of disinformation as a success term, as such a term presupposes a receiver and thus is dependent on a receiver who is misled.

According to Fallis (2015) disinformation is not a success term; that is, even though no one is actually misled by the intentionally misleading representational content it is still
disinformation and in the act of providing it one has disinfomed. Thus, disinformation is independent of informees (i.e., disinformees) and the true variety is still captured as an instance of well-formed, meaningful, and truthful data along with true misinformation. On Fallis’s (2014) account of disinformation lies are a type of disinformation and disinformation is a kind of deception (except bald-faced lies which are not intended to mislead and are not intentionally misleading either, as they are not misleading at all; cf. Fallis, 2014, note 4). According to Mahon (2008) to lie is not a success term but to deceive is an achievement or success term. This means that lies and disinformation are not always deceptive, i.e., they are not always instances of deception. Lies and disinformation can be deceptive and when someone is actually misled by the lie and the disinformation then it is deception. If no one is misled then the lie and the disinformation are not instances of deception but they are still a lie and disinformation.

**Conclusion**

Through Chalmers’s (2011) framework I have analysed the dispute in regard to the truth requirement for information within philosophy of information. I found that the dispute, as it plays out between Floridi (2005a, 2005b, 2007, 2011) and Fetzer (2004), Fox (1983), Fallis (2009, 2011, 2014, 2015), and Scarantino and Piccinini (2010), is a verbal dispute in regard to the term information. The disputing parties agree on a concept of semantic content in general and they agree that some instances of such content are true. The disagreement concerns whether it is all semantic content, or only the truthful part, which earns the label information. I further argue that Floridi’s distinction between information as true, and misinformation and disinformation as false, collapses due to the possibility of true misinformation and true disinformation.

Moreover, Floridi’s notion of semantic information includes the notions of true misinformation and true disinformation as misleadingness is not ruled out by a notion of ‘well-formed, meaningful, and truthful data’. This constitutes a dilemma, which I have labelled the Floridian Dilemma, i.e., the dilemma that the notion of semantic information as inherently truthful and independent of informees, as opposed to misinformation and disinformation as false semantic content (and therefore not kinds of information) includes true misinformation and true disinformation as kinds of information. As true misinformation and true disinformation are no less misleading than false misinformation and false disinformation, the dilemma is an unfortunate consequence of the way in which Floridi defines semantic information. In order to resolve the dilemma two options are available: either the literature on lying, misleading, and deceiving must be rewritten such that true misinformation and true disinformation are no longer possible (this would include the denial of the possibility of false implicatures); or information must be defined as semantic content in general without reference to truth, i.e., as alethically neutral, such that all varieties of misinformation and disinformation can be kinds of information. Of these two alternatives I recommend the latter.

The clarification that the dispute about the veridicality of information is a verbal dispute does not resolve the dispute itself. However, the clarification of the metalinguistic disagreement over the term information has the potential to ‘move [the disagreeing parties] beyond verbal disagreement to either substantive agreement or to clarified substantive disagreement’ (Chalmers, 2011, p. 517). Thus, with the clarification arises a possibility to move beyond discussions of truth-values for information, misinformation, and disinformation. Instead, it is possible to focus on the features which more accurately distinguish between misinformation,
disinformation, and information, for instance, misleadingness and non-misleadingness. The possibility to move beyond the verbal dispute is, according to Chalmers, philosophical progress in itself:

[T]he method I have outlined has the potential to clarify many or most philosophical disputes, and to resolve some of them. It will certainly not resolve them all, but it often gets us closer to the heart of the dispute and leaves us with a clearer understanding of the fundamental issues underlying a dispute and of what remains to be resolved. That is a form of philosophical progress (Chalmers, 2011, p. 564).

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