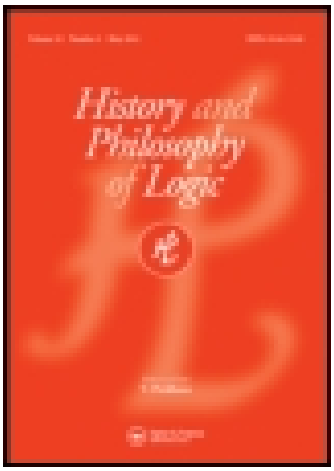
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Hegel's Glutty Negation

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Some authors have claimed that Hegel's 'determinate negation' should be distinguished from 'logical' or 'formal' negation, that is, from a view of negation as a contradictory forming operator. In contrast, I argue that dialectical determinate negation involves a view of negation as a *contradictory forming operator*, and can therefore count as formal negation in every respect. However, as it is clear in contemporary glutty semantics of negation, one may distinguish between different accounts of the relationship between negation, contradiction and content. I suggest that, differently from classical negation, and as glutty negation, dialectical negation has *partial content*.

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1. Some views on Hegel's negation

The idea that Hegel's dialectical negation, as determinate negation, should be distinguished from logical negation is a classical pattern in the reception of Hegel's dialectic, since its very beginning (*Trendelenburg 1840*, *Bullinger 1884*, *Überweg 1874*).[1] Among recent accounts, the most detailed and influential is, possibly, the one presented by Robert Brandom. In Brandom's holistic inferentialism, dialectics is the method of grasping conceptual contents:

> Grasping a concept involves mastering the properties of inferential moves that connect it to many other concepts. (*Brandom 1994*, p. 89.)

Inferential relations between concepts are incompatibility relations, and this implies a specific view of negation.[2] Dialectical determinate negation (DDN) is namely, in Brandom's account, *material incompatibility*, and, as such, should be distinguished from logical negation:

> 'Determinate negation' is [Hegel's] term for material incompatibility, from which, he takes it, the notion of formal negation is abstracted. The contents of concepts are identified and individuated by the functional roles they play in historically evolving webs constituted by relations of mediation and determinate negation, that is, by their material inferential and incompatibility relations to each other. (*Brandom 1994*, p. 92)

[1] For an interpretation of dialectical negation as contradictory forming operator similar to the one I am defending here see *Croce 1906*, *Adorno 1975*, *Henrich 1976*, pp. 208–230, *Baum 1986*, *Düsing 2012*, pp. 43–54, among others. Both Henrich and Düsing point out analogies and disanalogies between Hegel's negation and classical logical negation. According to *Henrich 1976*, Hegel's negation is – exactly like classical propositional negation – a contradictory forming operator. Differently from classical double negation, dialectical double negation is – so Henrich – 'self-referential': 'In der klassischen doppelten Negation negiert die erste Negation eine Aussage, die zweite diese erste Negation. Die Verdoppelung der Negation bedeutet in diesem Falle also im strikten Sinne gar nicht Selbstreferenz', 215. For a further development of Heinrich's thoughts see *Koch 1999*, pp. 1–25.

[2] An articulate account of Brandom's view of negation is in *Brandom 2008*, pp. 126–129. *Berto 2007* deepens the relationship between holistic inferentialism and Hegel's dialectics, focusing in particular on the meaning of dialectical negation as material incompatibility.

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Many other authors variously share this view. Lucio Cortella for instance observes:

> While it is right to underline the total unproductivity of logical negation (in front of a determination, it limits itself to negate it, affirming all what this determination is not, that is: the indeterminate), it is wrong to hold that dialectical negation is such a merely formal negation. (*Cortella 1995*, p. 387)[3]

Sergio Landucci points out, similarly, that Hegel's conception of determinate negation implies the dismissal of the classical logical meaning of negation as contradictory forming operator:

> Hegel's idea of the positivity of the negative means that negation should be intended as determinate negation, different from indeterminate negation, which is typical of the whole occidental logico-metaphysical tradition. (*Landucci 1978*, p. 291)[4]

According to Federico Perelda:

> The negative predicate is not the contradictory of the first one, that is: a nomen infinitum designating all what does not belong to it, it is rather a certain specific determination. There is a difference between normal negation, which is the contradictory of a given determination, and dialectical negation. (*Perelda 2003*, p. 565)[5]

In all these interpretations, some contentious views concerning the meaning of negation are at stake. In these accounts, logical negation is intended in terms of complementation, that is, $\neg\alpha$ is taken to be all what α is not, so the negation of α is called a 'nomen infinitum', 'indeterminate negation', and tagged as 'totally unproductive'. And this is the reason why dialectical negation is defined 'material' and 'not formal'. However, in the history and philosophy of logic it is clear that complementation is only one of the possible views about the meaning of negation.

2. Negation in glutty perspective

As *Wansing 1999* has suggested, literature on negation in philosophical logic is 'immense and abounds with disagreement' (*Wansing 1999*, p. 415). In what follows, I limit myself to a consideration of negation from the perspective of glutty semantics.[6] So called 'glutty theories' are theories according to which there are 'truth value gluts', that is, true sentences that instantiate the schema $\alpha \wedge \neg\alpha$. Evidently, this view implies a peculiar account of the behaviour of negation. In this respect, *Priest 1999, 2006* presents a clear overview. In *1999*, re-published with minimal changes in *2006*, Priest underlines that one may have reason to believe that there is no such thing as 'negation', and that there are lots of different theories of negations: the Boolean, the intuitionistic, de Morgan's view of negation. However, even if the objects of each of these accounts are, correspondingly, different, there is not a mere family resemblance, but a common ground of all these theories, and this is what the real object 'negation' is like. So if one asks 'what is negation?', 'how does negation behave?'

[3] Mentre è giusto sottolineare la totale improduttività della negazione logico-formale (in quanto essa di fronte a una determinazione si limita a negare ciò che essa è e quindi ad affermare tutto ciò che essa non è, vale a dire l'indeterminato), è errato ritenere che la negazione dialettica sia costituita solo da una siffatta negazione formale.

[4] Il principio della positività del negativo significa che la negazione di cui si tratta è la negazione determinata, dice Hegel [. . .]. Ora, quest'idea della negazione determinata è in alternativa, evidentemente, all'idea di una negazione affatto indeterminata; e quest'altra era ben presente in tutta la tradizione logico-metafisica occidentale.

[5] Il predicato negativo non è il contraddittorio del predicato, e dunque un nomen infinitum designante tutto ciò che è diverso da esso, bensì una certa specifica determinazione [. . .] Vi è una distinzione tra la "negazione qualunque" – che è qui il contraddittorio – e la negazione dialettica – che è la negazione determinata.

[6] For a first presentation of what I suggest to call 'glutty negation' see *Priest 1999, 2006*. For further articulations see *Restall 1999*, *Beall 2006, 2009*.

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the answer is: negation is a contradictory forming operator. In *2006* Priest underlines this point. Recalling that negation does not (always) correspond to how we use 'not' in English, he writes:

> For example, it may be used to reject connotations of what is said, though not its truth, as in, for example, 'I am not his wife: he is my husband' [. . .] More importantly, negation may not be expressed by simply inserting 'not' (for instance the negation of [. . .] 'Some man is mortal' is not 'Some man is not mortal', but 'No man is mortal'). These examples show that we have a grasp of negation that is independent of the way 'not' functions [. . .] We see that there appears to be a relationship of a certain kind between pairs such as 'Socrates is mortal' and 'Socrates is not mortal', and 'Some man is mortal' and 'No man is mortal'. The traditional way of expressing the relationship is that the pairs are *contradictories* and so we may say that the relationship is that of contradiction. Theories of negation are about this relation. (*Priest 2006*, p. 77)

So far, this view is substantially coherent with the classical view. It evokes Frege's observations about the differences between the negativity of natural language and logical negation. Though admitting the limits of logical language, *Frege 1979* underlines that we only have the logical device in order to express negativity, and that it seems impossible to do otherwise (*Frege 1979*, p. 150). More specifically, a contradictory forming operator can be defined as follows. Let @ be a unary sentential operator (i.e. @ requires exactly one sentence to make a new, molecular or compound sentence). We say that @ is a *contradictory forming operator* just when, for any sentence p, exactly one of p and @p is true, and exactly one of p and @p is false. In other words, assuming standard disjunction and conjunction behaviour (here symbolised as $\vee$ and $\wedge$), @ is a contradictory forming operator iff $p \vee @p$ must be true and $p \wedge @p$ must be false.

However, there are substantial differences between the classical and the glutty account. In classical logic, the relationship of contradiction implies that we must have at least one of the pairs, and cannot have both together. This is what distinguishes contradictory pairs from contraries and subcontraries. Contraries can be both false, while subcontraries can be both true. According to the glutty account, negation is a contradictory forming operator, but, differently from the classical account, some contradictory statements can be both true, which means that for some βs we have $\beta \wedge \neg\beta$. Evidently, the glutty theory implies a particular account of the relationship between negation, contradiction and content.

In *1999* and *2006* Priest distinguishes between three possible accounts of this relationship:

(1) cancellation (the connexivist account of the Middle Ages)
(2) complementation (the classical account)
(3) an intermediate account (the glutty account)

According to (1), $\neg\alpha$ cancels the content of α, hence contradictions entail nothing. According to (2), $\neg\alpha$ has whatever content α does not have, hence contradictions entail everything. According to (3), 'the content of $\neg\alpha$ is a function of the content of α, but neither of the previous kind' (*Priest 2006*, p. 31).[7] According to this account, $\alpha \wedge \neg\alpha$ entails something (but not everything). According to (1), a contradiction is unacceptable because it does not have any content: it is as if one presented a content, and then took it away. In case (2), a

[7] Priest also reconstructs that the intuitionistic account – like the classical one – implies that contradictions entail everything. Both are accounts of kind 2. Differently from classical logic, however, intuitionistic logic does not contain either $P \vee \neg P$ or $\neg\neg P \rightarrow P$ as theorems.

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contradiction implies everything. It is as if I presented a thing, and then all what this thing is not. According to (3), 'p and not p' has partial content, neither null nor total. Hence, contradictions entail some things but not others (See *Priest 2006*, p. 31).

In this perspective, negation should also be distinguished from refusal, or denial, which is the pragmatic meaning of negation. Denying α simply means expressing the refusal to include α in my stock of beliefs. But I may neither believe that α nor believe that $\neg\alpha$; I simply have no clear idea about α so I refuse α and I refuse $\neg\alpha$. They are both excluded from my stock of beliefs. Evidently, if negation means refusal, this would mean that in accepting both α and $\neg\alpha$ I both accept and refuse α, which is impossible.

The notion of partial content is thus crucial for glutty negation. If α conveys a piece of information,[8] then also $\neg\alpha$ conveys a piece of information, different from and contradictorily opposed to α. This means that the negation of α conveys some positive content, and does not simply cancel α out. This also means that saying $\alpha \wedge \neg\alpha$ does not mean saying everything, because the beliefs α and $\neg\alpha$ have a partial nature. If I believe that 'Juliette is not blond' is true, I am not thinking about all the properties of Juliette but for that of being blond, so if I also believe that 'Juliette is blond' is true, I do not imply by it everything that can be thought and said about Juliette in every possible world.

All this stated, it is possible to see that, exactly like in the classical account, glutty negation is to be intended as contradictory forming operator, but, unlike (2), a contradiction does not imply everything; and unlike (1), a contradiction does not entail nothing.[9]

The distinction between (1), (2) and (3) gives a useful frame in order to underline some aspects of Hegel's conception of negation that, up to now, have been overlooked.

3. Hegel's negation

Hegel's view of negation is scattered in several works. In all passages were negation is mentioned, its role within dialectics is underlined. In fact, Hegel's view of negation is inseparable from his view of the dialectical method.

One important point in order to understand the meaning of negation in dialectics, a point repeatedly underlined by Hegel himself, is that dialectical negation is to be distinguished from sceptical (pyrrhonian) negation. But what is pyrrhonian negation, then?

In the *Phenomenology of Spirit* scepticism is characterised as follows:

> This is just the scepticism, which only ever sees pure nothingness in its result, and abstracts from the fact that this nothing is determinate, is the nothing of *that from which it results*. Nothing, however, is only, in fact, the true result, when taken as the nothing of what it comes from; it is thus itself a determinate nothing, and has a content. The scepticism which ends with the abstraction 'nothing' or 'emptiness' can advance from this not a step farther, but must wait and see whether there is

[8] 'Piece of information' means 'proposition' or 'content conveyed by a declarative sentence'.

[9] The talk of 'content' in relation to 'formal negation', which is typical for the glutty approach to negation, could be misleading. The question arises as to what the talk of partial content (or surplus content) in relation to a formal account of negation amounts to, exactly, and if it implies a confusion of some sort between formal and non-formal concepts. Answering this question would require an analysis of the meaning of 'formal' in the expression 'formal logic' or 'formal negation', a question which is still controversial, even among logicians (see on this *Novaes 2011*). For present purposes, a specification of the meaning of 'partial' or 'surplus' content in the glutty approach to negation might be in order. In both glutty (dialetheic) and classical accounts, negation is an operator that turns the truth of a statement into falsity and vice versa – and it does this, like every logical connective, independently of the content of the statement. The specificity of the glutty account is that *a* and *not-a* may both be true, and what follows from a contradiction is neither everything nor nothing. In this respect, the talk of partial content (or surplus content) is to be referred to the fact that, while in other accounts of negation what follows from a contradiction is 'everything' or 'nothing', in the glutty one what follows from a contradiction is 'something'. Thus the talk of 'content' is to be taken in general terms, and does not imply the reference to a specific subject matter.

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> possibly anything new offered, and what that is – in order to cast it into the same abysmal void. When once, on the other hand, the result is apprehended, as it truly is, as *determinate* negation, a new form has thereby immediately arisen; and in the negation the transition is made by which the progress through the complete succession of forms comes about of itself. (*Hegel Werke* 3, p. 74, *Hegel 1977*, p. 51)

Similarly, always in the *Phenomenology of Spirit* Hegel observes:

> We have here, however, the same sort of circumstance, again, of which we spoke a short time ago when dealing with the relation of this exposition to scepticism, viz. that the result which at any time comes about in the case of an untrue mode of knowledge cannot possibly collapse into an empty nothing, but must necessarily be taken as the negation of that of which it is a result – a result which contains what truth the preceding mode of knowledge has in it. (*Hegel Werke* 3, pp. 79–80, *Hegel 1977*, p. 56)

The scepticism Hegel refers here to is the ancient (phyrronian) insight according to which for every valid argument there is an opposite one that is equally valid (*pantì lógo lógos ísos antíkeitai*). By opposition here is meant a relation between contradictories, so the form of the sceptical principle is simply a contradiction:

$$p \wedge \neg p$$

The sceptic 'sees in the result only pure nothingness', so, Hegel says, 'the result collapses into an empty nothing', which means that the sceptic holds that a contradiction entails nothing, the disappearance of things, and any knowledge of them. The dialectician, instead, admits 'the fact that this nothing is determinate and has a content' sees 'the result as it truly is, as *determinate* negation' as 'containing what truth the preceding mode of knowledge has in it'. Here Hegel is simply saying that what follows from the contradiction is not nothing – that, from a dialectical point of view, negation cannot be understood as cancellation.

So we see that what follows from a contradiction, according to the dialectical account of negation, is not nothing, but the truth of the 'preceding' mode of knowledge. The 'truth of the preceding mode of knowledge' is simply the recognition of the truth of the contradiction at stake.[10]

When Hegel speaks of 'the truth of the previous mode of knowledge' he is suggesting that the equal validity of contradictory opposed arguments, that obliges the sceptic to 'cast' what she knows into 'the abysmal void', is in fact, for dialectical thought, *a resource of reason*. But this is possible only if the content of the contradiction has a definite-determinate meaning, and so is neither 'explosive'[11] nor nullifying.

Hegel's conception of determinate negation is further clarified in the chapter on Spinoza in the *Lectures on the History of Philosophy*, were Hegel distinguishes dialectical negation

[10] For a similar interpretation of dialectical double negation see *Düsing 2012* and *Baum 1986*. According to *Düsing 2012*, p. 50,
> In one argumentative process one conceptual determination is affirmed, one contrary property is opposed to the first, this opposite determination is further turned into the contradictory opposite of the first [. . .] the negation of the negation turns to the whole [concept] that [. . .] entails that opposition and contradiction.
>
> So wird in einem und demselben Argumentationsgang eine Bestimmung gesetzt, eine ihr konträr entgegengesetzte ihr gegenübergesetzt, dieser inhaltlich bestimmte Gegensatz zum Widerspruch [. . .] fortbestimmt [. . .] Die Negation dieser Negation führt positiv zurück auf das zugrunde liegende Ganze, das [. . .] jenen Gegensatz und Widerspruch in sich bewahrt'.

[11] The expression 'explosion' has a technical meaning, and is a synonym of the classical logical principle of ex contradictione quodlibet, according to which from a contradiction follows everything.

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from Spinoza's principle *omnis determinatio est negatio*. Here also emerges why those approaches that identify Hegelian with Spinozian negation are misleading:

> Spinoza's procedure is therefore quite correct; yet the individual proposition is false, seeing that it expresses only one side of the negation. The understanding has determinations which do not contradict one another; contradiction the understanding cannot suffer. The negation of negation is, however, contradiction, for in that it negates negation as simple determination, it is on the one hand affirmation, but on the other hand also really negation; and this contradiction, which is a matter pertaining to reason, is lacking in the case of Spinoza. (*Hegel Werke* 20, p. 164, *Hegel 1896*, p. 262)

In a word, Spinoza's negation is intellectual and not rational: so it cannot suffer any contradiction. Spinoza's formula *omnis determinatio est negatio* according to Hegel expresses only 'one side of the negation'. In Spinoza's view while the substance is pure affirmation, its determinations are negations (because they introduce cuts and limits within the infinite and continuous substance), they have a positive meaning insofar as they determine the substance *ex negativo*. However, the definitions of the substance are negative, but exclude contradiction, they 'don't contradict one another' and we cannot use contradictory determinations in order to express the infinite substance. But using contradictory determinations in order to define concepts is precisely what Hegel wants to do.

Hegel therefore points out that it is right to say that the substance is affirmative, since it is the negation of the single determinations, which are themselves negations (so the substance is affirmation in the classical strong sense of 'negation of negation'. According to the Law of Double Negation: $\alpha = \neg\neg\alpha$). However, the fact that the substance is affirmation in the sense of 'negation of negation' does not mean that it is only affirmation. On the contrary, according to Hegel, it is also truly negation.

Spinoza underlines that the infinite and the substance are 'absolute affirmations'. According to Hegel, this is right insofar as affirmation is nothing else than negation of negation. However – so Hegel – the expression 'negation of negation' is better than 'affirmation'. Why? Because what Hegel is talking about here is the situation of a concept, such as the concept of *causa sui*, whose definition (whose same meaning) entails a contradiction. So we can formulate the Law of Dialectical Double Negation (or DDN), according to which:

$$\text{DDN} : \neg\neg\alpha \vdash \alpha \wedge \neg\alpha$$

This (apparently absurd) law is easily explained if one takes into account that the concept Hegel is speaking of when he says that determinate negation, differently from what Spinoza thought, 'does not only affirm but also genuinely negates' is an internally contradictory concept.[12] So if we call the concept 'α' then we have that: $\alpha = \alpha \wedge \neg\alpha$, and it follows that $\neg\neg\alpha = \alpha \wedge \neg\alpha$, dynamically expressed by Hegel by saying that we capture the true nature of concepts only when, by negating their negation, we gain them in their completeness, which is contradictory.

For instance, Hegel often underlines that Spinoza's concept of *causa sui* as that whose essence entails existence is a truly contradictory concept (See *Hegel Werke* 20, p. 171 and *Hegel Werke* 2, pp. 229–230). In the case of the concept of *causa sui*, the property of 'being cause' entails that 'a cause can only because of something else'; now we see that the

[12] It could be objected that every claim has a negation, and that DDN cannot be true for all αs, or everything would be true (and it is implausible to see Hegel as a trivialist). The way of getting around this point is underlining that every claim has a negation, but not every claim concerns dialectical concepts such as causa sui or similar. Thus not every DN is DDN. DDN and other dialectical devices are topic-specific, and this means that DDN does not hold for all αs, and there is no trivialism.

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possessive pronoun 'sui' entails the negation of the term causa, thus *causa sui* is something which is both causa and not-causa, reflexive and not-reflexive. Contradiction. According to Hegel, this means that the concept of *causa sui* entails a negation and the negation of this negation (results from both negation and negation of negation). The two determinations (*causa* and *sui*) cannot be thought together and are thought together in a concept as what cannot be thought together. So we have incompatible determinations joined in a unique notion, which connects both in inextricable way.

In the *Science of Logic*, the meaning of negation is analysed in the context of an inquiry into the meaning of the Law of Non Contradiction (LNC) and the Law of Excluded Middle (LEM). According to Hegel, the LEM is:

> An important proposition, which has its necessity in the fact that identity passes over into difference, and this into contradiction. Only it is usually not understood in this sense, but usually means nothing more than that, of all predicates, either this particular predicate or its non-being belongs to a thing. (*Hegel Werke* 6, p. 73, *Hegel 1969*, p. 438)

Similarly, he also underlines that:

> Thinking reason, however, sharpens, so to say, the blunt difference of diverse terms, the mere manifoldness of pictorial thinking, into *essential* difference, into *contradiction*. Only when the manifold terms have been driven to the point of contradiction do they become active and lively towards one another, receiving in contradiction the negativity which is the indwelling pulsation of self-movement and spontaneous activity. (*Hegel Werke* 6, p. 78, *Hegel 1969*, p. 442)

In these passages the main point is the relation between difference (or contrariety) and contradiction. Hegel points out that interpreting negation as contradiction is *necessary*. In Hegel's words, contrariety *necessarily* turns into contradiction. This is substantially consistent with what both Frege and Priest say about the difference between our use of 'not' in natural language and its formal expression through negation. They both suggest that there is a difference between the negativity of human language and its formal fixation through logic. This is also recognised by Brandom when he observes that: 'the notion of formal negation is abstracted' from the one of 'material incompatibility'.

In my view, Hegel's observations show the formal dimension of his concept of negation.[13] In contrast, in the interpretations hinted at above the formal nature of Hegel's logic does not emerge.[14] What is more, from Hegel's theory of negation, re-read from the point of view of glutty semantics of negation, it is evident that the abstract and formal perspective – which necessitates a view of negation as contradictory forming operator – is neither nullifying nor explosive.

In sum, from what Hegel says about negation we can derive the description of the way in which negation works within dialectics. In my reconstruction, dialectical negation emerges as a contradictory forming operator.

The opposite determinations, separately, as grasped by the understanding, are truly incompatible and jointly exhaustive: there is no third. When conceptual determinations are grasped

[13] However, the formal dimension of Hegel's dialectics is to be intended in non-classical, but rather paraconsistent (glutty) terms, as dialectics implies, exactly like paraconsistent logic, that, in it, the classical principle of ex falso quodlibet (from a contradiction follows everything) does not hold. See on this the essays collected in *Marconi 1979*, *Priest 1989*, *D'Agostini 2010*.

[14] According to many major contemporary interpreters, there are substantial differences between formal logic and Hegel's dialectics. For a characterisation of the specificity of Hegel's dialectical logic in contrast to formal logic see *Wolff 1986*. According to *Düsing* (Note 18), pp. 55–76, Hegel's dialectics could possibly open a new kind of (and view about) formal logic. However, the main question is to clarify what is meant by 'formal logic', a question that is still controversial, among logicians.

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by reason, they are thought together, so in one sense they lose their mutual incompatibility, but, since for Hegel the logic of reason entails the logic of the understanding, the two contradictory determinations are thought together as what cannot be thought together. In this sense, Hegel's logic, though admitting violations of LNC, does not reject the validity of LNC and LEM.[15]

Not only that, according to my account the consequences of dialectical negation are glutty, i.e. dialectical contradictories neither cancel each other out nor have total content. This is probably the most contentious point. A first proof in favour of my hypothesis might be what Hegel himself says: the insight into the truth of a contradiction is defined as 'insight into the truth of the *previous* mode of knowledge', of the '*preceding* contradiction', not of *every* contradiction, or of *everything*.

4. Hegel's negation as glutty negation

Before concluding, it is useful to recapitulate the glutty perspective on negation, comparing it with Hegel's view. In short, according to the glutty semantics of negation:

(1) Negation is classically intended as a contradictory forming operator.
(2) Some contradictions are true, which means that, in some cases, α is true and $\neg\alpha$ is also true.
(3) In traditional accounts, a contradiction is inconceivable. This happens because 'not' is intended as:
   - Complementation: $\neg\alpha$ is the complement of α, and this means that α and $\neg\alpha$ together are everything.
   - Cancellation: $\neg\alpha$ cancels α out and this means that α and $\neg\alpha$ together are nothing.
   - Refusal: accepting α means refusing α, so 'α and $\neg\alpha$' means both accepting and refusing α, which is impossible.
(4) $\neg\alpha$ has a specific, partial content, distinguished from α, so that accepting $\neg\alpha$ does not mean accepting everything, or nothing, or accepting and refusing α.

As to Hegel:

(1) The negation that, for Hegel, is dialectically relevant, is to be intended as a contradictory forming operator. 'Thinking reason', Hegel says, 'is what sharpens mere differences into contradictions'. As Hegel stresses, the concept of 'causa sui' becomes 'causa' and 'not-causa'. This means that the kind of opposition that generates the dialectical development is contradiction, that is, logical negation.
(2) Some contradictions are true, but not all. This is a controversial point. Yet, what is evident in Hegel's treatment of pyrrhonian negation is that DDN implies the view that the contradiction emerging from a particular phenomenological mode of knowledge or logical form has a partial nature, and does not imply the destruction of logic or its explosion.

[15] This is similar to the first logic developed by Priest, the Logic of Paradox (LP). See *Priest 1979*, pp. 219–241. For a consideration of dynamic aspects within dialectical logic in contrast to the Logic of Paradox see *Batens 1989*, pp. 187–188. Differently from paraconsistent logics, what Batens calls here 'dynamic dialectical logics', though sharing all the main view defended by paraconsistentism, are dynamic, and this means that the derivation of sentences from premises cannot happen without reference to a stage in the proof, which Batens calls – for simplicity – *a time*. As a matter of fact, Hegel's dialectics entails the consideration of the dynamic between the point of view of the understanding – for which LNC and LEM hold – and the point of view of reason – which 'overcomes and preserves' the intellectual standpoint.

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(3) Hegel's semantics of negation does not entail the explicit distinction between negation as complementation, cancellation and refusal. However, the passages considered above clearly show that Hegel's determinate negation is not reducible to any of the three cases. In particular, we have seen that the Spinozistic and the Skeptical views of negation might be thought to correspond to the first (cancellation) and second (complementation) accounts of negation, and that Hegel's negation cannot be identified with neither of them. Hegel's negation is thus:

(4) Glutty negation.[16]

5. Conclusion

I have argued for an interpretation of DDN as usual logical negation, though in a glutty meaning of negation.[17] In my reconstruction, dialectical negation both is a contradictory forming operator (as in classical accounts) and has partial content (as glutty semantics of negation suggest). In this respect, I have underlined some problems within those interpretations that stress the non-logical nature of Hegel's view, interpreting dialectical negation as material incompatibility or contrariety. My claim has been that contrariety or material incompatibility, though playing a fundamental role within dialectics, do not express the meaning of DDN.

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[16] The law of Dialectical Double Negation (DDN) underlined in Section 3 does not appear in any paraconsistent logic. This seems to suggest a major difference between the Hegelian and the paraconsistent/glutty account. However, DDN does not clash against any of the basic features of glutty negation (1–4) and is not, in principle, incompatible with glutty negation. DDN rather conforms to a version of paraconsistent logic which is closer to classical logic. As in classical logic (and in the Spinozistic account of negation), in dialectical logic the law of double negation elimination holds. Differently from classical logic (and from the Spinozistic account), and as in paraconsistent-glutty accounts, α can be a dialetheia (a contradiction) without this implying any explosion of logic.

[17] That DDN should be interpreted as 'formal' or 'logical' negation though in a glutty meaning of 'negation' means that its behaviour is the same as the one of classical negation (the functor that turns the truth of a statement into its falsity and vice versa) and that it should be distinguished from both intuitionistic negation, where LEM and DN fail, and from interpretations of negation in terms of paracomplete many valued logics, which reject LEM. The only distinction from classical negation is that, in the glutty approach, truth and falsity overlap. In the Logic of Paradox (LP), defended by *Priest 1979*, in particular, LNC and LEM do not fail. Deepening the question of the compatibility between this claim and the view according to which 'there are true contradictions' would go beyond the scope of this article.

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